

CONTENTS

1.0 IMPORTANT NOTICE & INTRODUCTION & SAFETY NOTICE.....	1
IMPORTANT NOTICE	1
INTRODUCTION	1
SAFETY PRECAUTIONS.....	1
CHECK OF HIGH VOLTAGE HOLD DOWN CIRCUIT.....	2
PRODUCT SAFETY NOTICE.....	3
2.0 GENERAL MAINTENANCE PROCEDURE	4
3.0 FUNCTION BLOCK DIAGRAM.....	5
4.0 DESCRIPTION OF CIRCUIT.....	6
5.0 TIMING MODE (CTX PRESETTING TIMING).....	8
6.0 ADJUSTMENT	9
6.1 1569VL ADJUSTMENT	9
7.0 TROUBLESHOOTING	11
7.1 MAIN TROUBLESHOOTING ROUTINE.....	11
7.2 POWER SAVING CIRCUIT TROUBLESHOOTING ROUTINE.....	12
7.3 POWER SUPPLY CIRCUIT TROUBLESHOOTING ROUTINE.....	13
7.4 MICON CIRCUIT TROUBLESHOOTING ROUTINE	15
7.5 VIDEO CIRCUIT TROUBLESHOOTING ROUTINE	18
7.6 DEFLECTION CIRCUIT TROUBLESHOOTING ROUTINE	21
7.6.1 <i>Horizontal Deflection Circuit</i>	21
No Raster.....	21
H-Asynchronous	22
Linearity	23
Out of phase.....	24
Width Abnormal	24
7.6.2 <i>Vertical Deflection Circuit</i>	25
No vertical scan	25
Picture distortion.....	26
V-Asynchronous	27
Vertical position	27
Vertical Size	28
8.0 IC CONFIGURATION.....	31
9.0 PARTS LIST	33
10.0 LAYOUT FOR MAIN COMPONENTS AND ADJUSTED.....	43
11.0 CIRCUIT DIAGRAM	43
12.0 EXPLODED VIEW	43

1.0 IMPORTANT NOTICE & INTRODUCTION & SAFETY NOTICE

IMPORTANT NOTICE

Please read before attempting service

1. While the monitor is in operation, do not attempt to connect or disconnect any wires.
2. Make sure the power cord is disconnected before replacing any parts in the monitor.
3. When the power is on, do not attempt to short any portion of the circuit. This shorting may cause damage to the transistors in the monitor.
4. When servicing the H.V. area, be certain that the C.R.T anode is safely discharged before removing the anode cap.
5. Caution must be exercised when servicing this monitor.

INTRODUCTION

Enhanced repair capabilities

This Service Manual is edited for model 1569VL when service is necessary. There are four primary parts included in this troubleshooting guide which offer the easiest way to locate problem points and repair the machine to the best possible condition.

1. The Adjustment section offers the adjustable method, steps and all data of the factory's initial settings which can make the machine get the best performance at that time. By the way, before adjusting, the machine must be warmed up for at least 10 minutes and the CRT face must be in an eastward direction.
2. The Troubleshooting section has four main parts including: power supply, power saving, CRT, deflection & video circuit. Each offers fast repair routine and the IC, transistor voltage records against all specified signal modes. These voltage readings are measured with a HP 34401A multimeter with input impedance 10M (0.1V/1000V range) and waveforms shown on circuit schematics are measured by a Tektronix TDS 520 digital

oscilloscope, the monitor receives VGA-480 full white square pattern.

3. The Spare parts list offers the CTX part number (P/N) which is used frequently by repairmen / technicians. For details please refer to the service guide or service manual. If there is any engineering change regarding this model, CTX will issue the updated information by a non-periodical Technical Bulletin.
4. The transistor voltage records are measured from LEFT side to RIGHT side when face to the front (printed side) of transistor.

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

The following precautions should be observed.

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled. Keep picture tube away from the body while handling.
2. When replacing a chassis in the monitor, all the protective devices must be put back in place, such as barriers, non-metallic knobs, adjustment and compartment shields, and isolation resistor-capacitor, etc..
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacturer's replacement components. Especially critical components as indicated on the Replacement parts list should not be replaced by other manufacturer's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced monitor to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the monitor by the manufacturer has become defective, or

inadvertently defeated during servicing. Therefore, the following checks should be performed for continued protection of the customer and service technician.

High Voltage

This monitor is provided with a high voltage hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may function correctly.

Service Warning

With minimum Brightness and Contrast the operation high voltage in this display is lower than 26KV.

If any component having influence on the high voltage is replaced, confirm that the high voltage with minimum Brightness and Contrast is lower than 26KV. To measure high voltage use a high impedance high-voltage meter. (SENSITIVE RESEARCH Model: ESH or Equivalent) Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram Fig. 1).

NOTE:

- 1) Turn power switch off without fail before making the connection to the Anode button.
- 2) Before turn power switch ON, confirm the AC line voltage, set the "Voltage Selector".

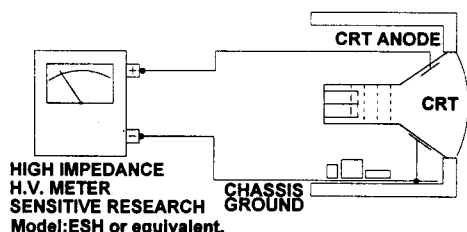


Fig. 1

X-radiation

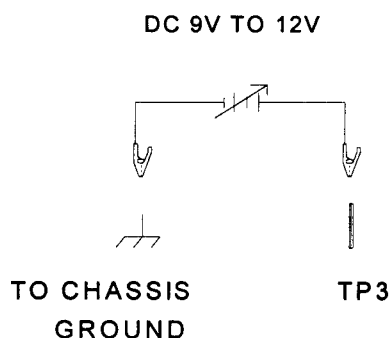
TUBE: The primary source of X-radiation in this monitor is the picture tube. The tube

utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, manufacturer approved type. When troubleshooting and making test measurements in a monitor with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage components. Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

CHECK OF HIGH VOLTAGE HOLD DOWN CIRCUIT

Checking of the high voltage hold down circuit operation.

1. Turn the switch of the unit ON.
2. Set Brightness, Contrast controls to max..
3. Check the voltage of TP3 is $8.0 \pm 0.5V$.
4. Turn off the unit and connect a DC power source to TP3 and chassis ground as shown in Fig. 2.

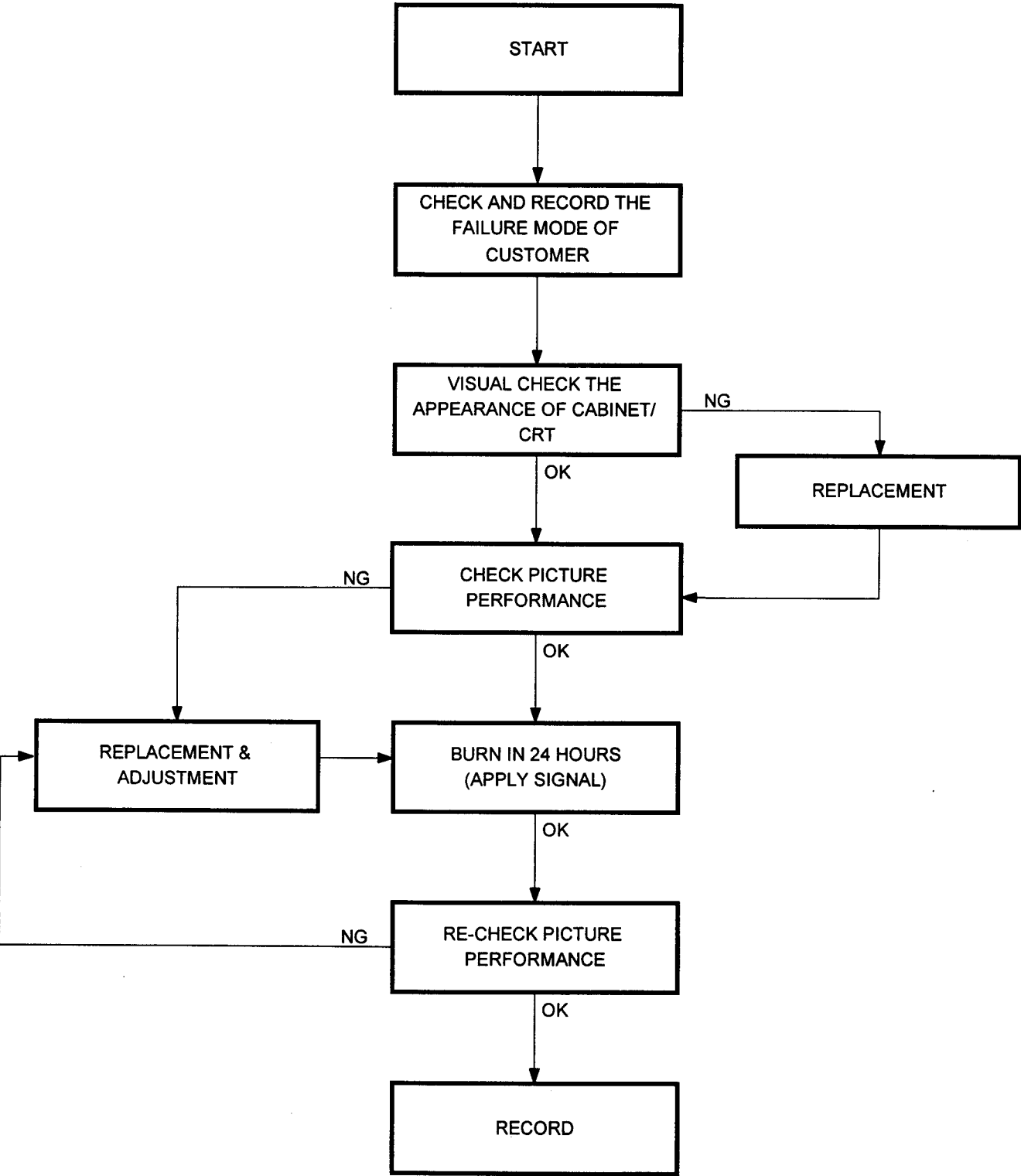


Main Board Assembly

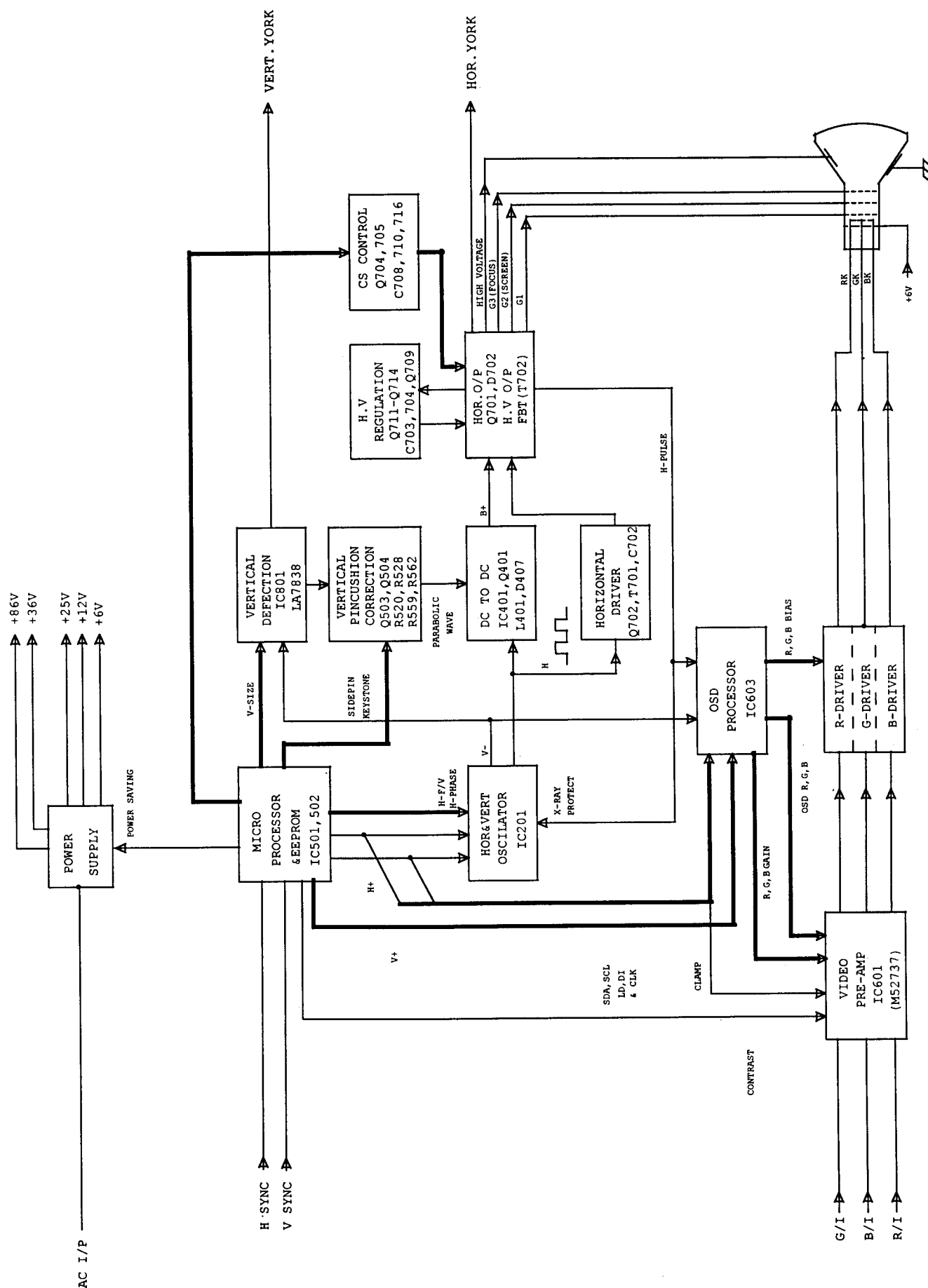
Fig. 2

5. Turn the switch of the unit ON and turn on the DC power source.
6. Check the picture should disappear when the reading of DC power source is more than $9.2 \pm 0.5V$.
7. Turn the switch of the unit OFF immediately after the picture disappears.
8. Remove the DC power source.

2.0 GENERAL MAINTENANCE PROCEDURE



3.0 FUNCTION BLOCK DIAGRAM



4.0 DESCRIPTION OF CIRCUIT

1. Power supply circuit

The power supply is a "serial & universal AC input" switching power supply. The start up circuit will provide a DC voltage for PWM (Pulse Width Modulation) IC (IC101) when power on. When IC101 works normal start up circuit Q101 will cut off the DC voltage IC101 will auto-detect output voltage of V1 from pin2 and correct the duty cycle of pin6 output pulse to compensate the variation of output voltage.

The output of IC101 connected to power mosfet to drive the power transformer T101. When power mosfet is on, the energy stored in the primary winding of T101. Once mosfet is off, the energy transfer to the secondary and charges the output capacitor to get the stable DC voltage.

2. Oscillation circuit

Form Pin1~Pin13 of IC201 are for horizontal oscillation and Pin15~Pin19 are for vertical oscillation. The Pin2 is H-sync input, through Pin2 & 3 are for phase control, and then output to A.F.C (Auto Frequency Control). The H-phase from horizontal output circuit is sent to Pin4 for saw tooth generator. The Pin7 is A.F.C output connected to O.S.C control circuit to make the output frequency stable. The Pin12 is square wave output and connected horizontal output stage & H.V output stage Pin13 is X-RAY protect input. When H.V output circuit is abnormal (H.V too high), the X-RAY protect circuit will shut off the horizontal output, H.V. also will be shut down.

3. Horizontal output circuit

The H.V adjustment circuit consist of C703, Q709 and H.V regulation (Q711, Q712, Q713, Q714, IC701) which control the H.V output level. The duty cycle of Q709 gate directly control output voltage of C703. The C703 is a supply capacitor which supply the energy to primary winding of FBT and Q701 switch repeatedly to transfer the energy to FBT secondary winding.

4. Micon circuit

The IC501 (CPU) will detect polarity and frequency of input H.V Sync.. The CPU will determine the mode of input timing (preset or users mode) and load data from IC502 (E²PROM). The output of IC501 were connected the other function (ie. H-SIZE, V-SIZE, H-PHASE.....) Also, the user can adjust picture from keyboard and the data will be saved into IC502 automatically. For the O.S.D mode, when O.S.D manual is active CPU will inform the OSD IC to send O.S.D BLK signal to blank the video signal from VGA card and the IC603 (O.S.D IC) will send O.S.D R-G-B video signal the consist the O.S.D manual.

IC501	Function control
Pin1	H-phase
Pin3	Contrast
Pin17~19	H-linearity
Pin20,21	Power saving
Pin22	Degauss
Pin23	Mute
Pin32,33	H & V Sync output
Pin35	Parallel
Pin36	Keystone
Pin37	Side-pin
Pin38	V-position
Pin39,40	H & V Sync input

5. DC-DC convertor circuit

Due to output DC voltage is higher than input DC voltage we call the circuit step-up DC-DC regulator. The PWM control IC3843 is kernel of the circuit. The 3843 will detect the output of H-O/P and then change the duty of Pin6. When Q401 is on, the energy stored in the secondary of power transformer. The energy will be released and to get the B+ when Q401 turn off. So, the input duty cycle of Q401 gate is higher, the output B+ is higher.

6. Vertical output circuit

The vertical pulse from oscillation IC201 (LA7856) is sent to Pin2 of vertical IC (LA7838). The amplifier output Pin12 drives

the vertical deflection will directly. Voltage setting on Pin4 determines the peak level of the saw-tooth ramp, thus can be used as vertical height control. The DC feedback is sent to Pin7 of vertical IC (LA7838) adjusting VR801 can achieve best linearity.

7. Video output circuit

Video circuit consists of video preamplifier IC601 (M52737SP) and output cascode amplifier with RLC peripherals. IC601 is a Video processing IC equipped with three DC amplifiers to pre-amplify R.G.B signals from 0.6V to 3V. The voltage gain of these amplifiers are call DC controlled from Micro processor. The R.G.B GAIN & BIAS control signal are from DACs of OSD IC(STV9425). So simple voltage drive with resistors and timmers can be used to adjust the voltage GAIN and BIAS of each RGB signal's amplification and thus achieve a well balanced white picture.

The OSD IC is to control picture of OSD window. The video output stage contains three identical cascode amplifiers to amplify the video signal from IC601 to capable of driving CRT.

5.0 TIMING MODE (CTX Presetting Timing)

NAME	VGA-400	VGA-480	640X480-85	640X480-120	800X600-65	800X600-100	1024X768-85	1280X1024-60
PIXEL CLOCK	28.322 MHZ	25.175 MHZ	36.000 MHZ	54.890 MHZ	56.250 MHZ	67.297 MHZ	94.5 MHZ	108 MHZ
Fh	31.469 KHZ	31.469 KHZ	43.269 KHZ	63.530 KHZ	53.674 KHZ	63.883 KHZ	68.677 KHZ	63.981 KHZ
Fv	70.087 HZ	60 HZ	85.008 HZ	119.868 HZ	85.061HZ	99.973 HZ	84.997 HZ	60.020 HZ
INTERLACE MODE	NO	NO	NO	NO	NO	NO	NO	NO
VIDEO	ANALOG-COLOR	ANALOG-COLOR	ANALOG-COLOR	ANALOG-COLOR	ANALOG-COLOR	ANALOG-COLOR	ANALOG-COLOR	ANALOG-COLOR
XS SYNC ON GREEN	NO	NO	NO	NO	NO	NO	NO	NO
VIDEO LEVEL	700mv	700mv	700mv	700mv	700mv	700mv	700mv	700mv
WHITE LEVEL	700mV	700Mv	700mV	700Mv	700mV	700mV	700mV	700mV
BLANK LEVEL	0 IRE	0 IRE	0 IRE	0 IRE	0 IRE	0 IRE	0 IRE	0 IRE
16 BIT HEX DATA	0000	0000	0000	0000	0000	0000	0000	0000
UNIT OF DATA	Us/ms	Us/ms	Us/ms	Us/ms	Us/ms	Us/ms	Us/ms	Us/ms
H TOTAL	31.778 us	31.778 us	23.111 us	15.741 us	18.631 us	15.654 us	14.561 us	15.631 us
H DISPLAY	25.422 us	25.422 us	17.778 us	11.660 us	14.222 us	11.870 us	10.836 us	11.852 us
H B-PORCH	1.907 us	1.907 us	2.222 us	1.731 us	2.702 us	2.003 us	2.201 us	2.296 us
H-S-WIDTH	3.813 us	3.813 us	1.556 us	1.749 us	1.138 us	1.187 us	1.016 us	1.037 us
H BORDER	0.000 us	0.000 us	0.000 us	0.000 us	0.000 us	0.000 us	0.000 us	0.000 us
H SIZE	4.000 mm	4.000 mm	4.000 mm	4.000 mm	4.000 mm	4.000 mm	4.000 mm	4.000 mm
V TOTAL	14.268 ms	16.683 ms	11.763 ms	8.343 ms	11.756 ms	10.003 ms	11.765 ms	16.661 ms
V DISPLAY	12.711 ms	15.253 ms	11.093 ms	7.555 ms	11.179 ms	9.392 ms	11.183 ms	16.005 ms
V B-PORCH	1.112 ms	1.048 ms	0.578 ms	0.567 ms	0.503 ms	0.501 ms	0.524 ms	0.594 ms
V S WIDTH	0.064 ms	0.064 ms	0.069 ms	0.094 ms	0.056 ms	0.063 ms	0.044 ms	0.047 ms
V BORDER	0.000 ms	0.000 ms	0.000 ms	0.000 ms	0.000 ms	0.000 ms	0.000 ms	0.000 ms
V SIZE	3.000 mm	3.000 mm	3.000 mm	3.000 mm	3.000 mm	3.000 mm	3.000 mm	3.000 mm
H S OUTPUT	ON (-)	ON (-)	ON (-)	ON (-)	ON (+)	ON (+)	ON (+)	ON (+)
V S OUTPUT	ON (+)	ON (-)	ON (-)	ON (-)	ON (+)	ON (+)	ON (+)	ON (+)
X S OUTPUT	ON (-)	ON (-)	ON (-)	ON (-)	ON (+)	ON (+)	ON (+)	ON (+)
X S SELETE	H	H	H	H	H	H	H	H

6.0 ADJUSTMENT

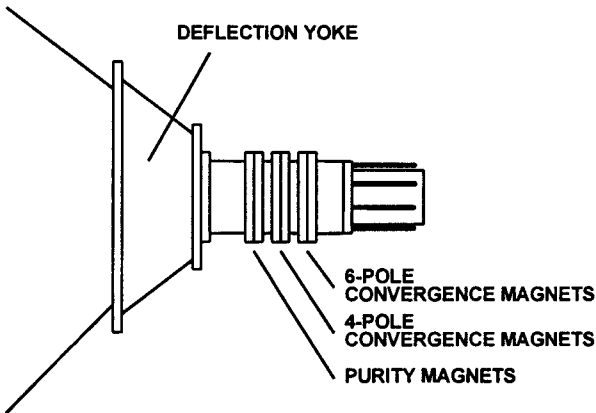
6.1 1569VL ADJUSTMENT

REM:PRESET MODE DATA ADJUSTMENT:

- Turn off it.
- Press the ⊕ and ⊖ at same time where on the external control panel.
- Turn on it.

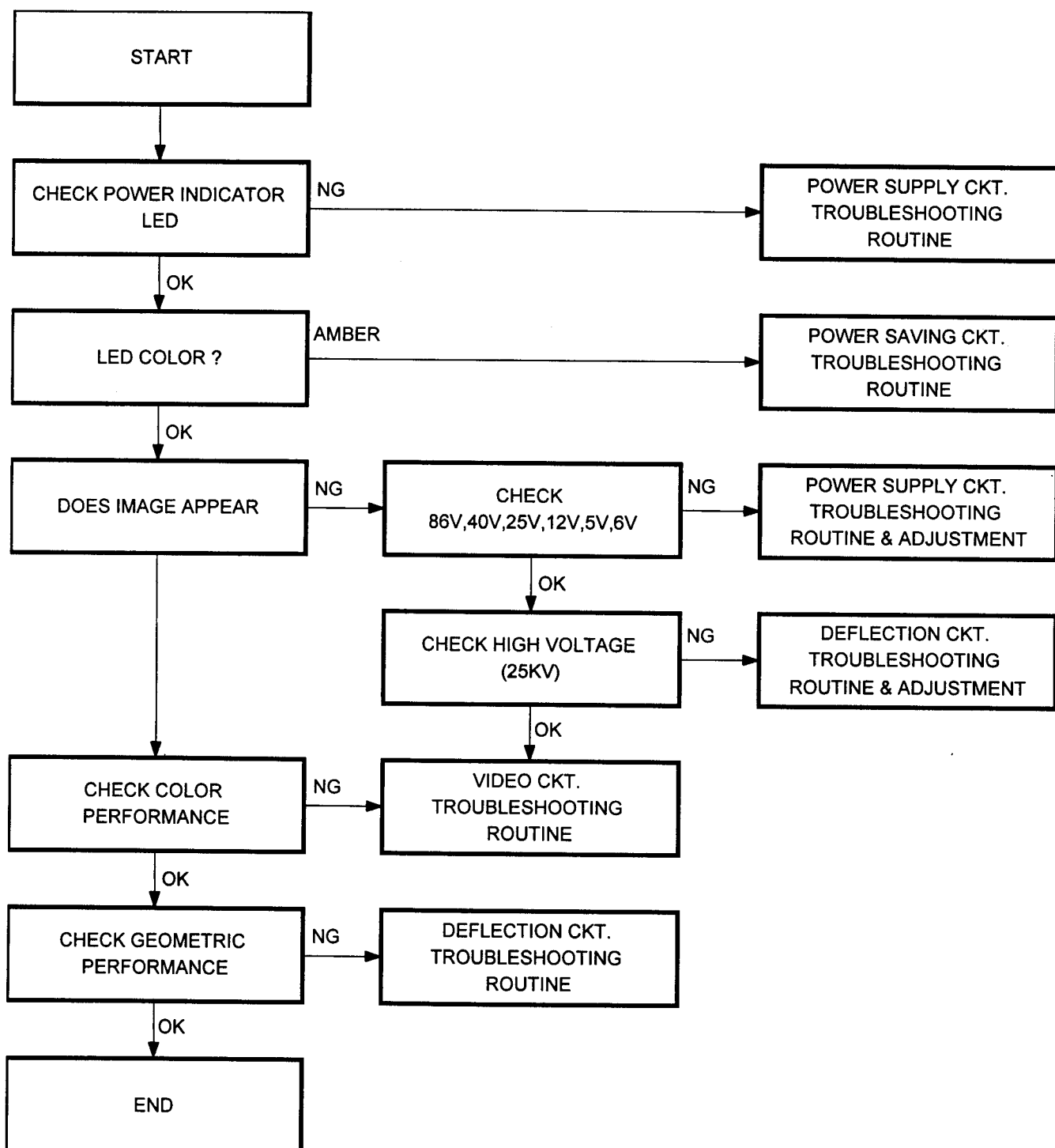
Remark: Before adjusting, monitor must warm up 10 minutes and CRT must be degaussed.

ADJUSTMENT	LOCATION	SPECIFICATION/DESCRIPTION	TIMING & PATTERN
86V	VR101	TP1=86V±0.5V	VGA-480, X'HATCH
12V	VR102	TP2=12V±0.2V	VGA-480, X'HATCH
H.V.	VR702	CRT ANODE=25KV±0.5KV	VGA-480, X'HATCH
H-HOLD (L)	VR202	Picture stand or flow slowly when TP4 shorted to GND.	VGA-480 (31KHz) , X'HATCH
H-HOLD (H)	VR201	Ditto	VII1024-75, X'HATCH
H-PHASE	OSD H-PHASE MANUAL	$\frac{ R-L }{2} \leq 2.5\text{mm}$	All of PRESET modes , X'HATCH
V-CENTER	OSD V-CENTER MANUAL	$\frac{ U-D }{2} \leq 2.5\text{mm}$	All of PRESET modes , X'HATCH
V-LINE	VR801	$\frac{Y_{\text{max}}-Y_{\text{min}}}{Y_{\text{max}}} \leq 10\%$	VESA1024 , X'HATCH
H-CENTER	VR701	Adj. Raster to center.	VII1024-75 , X'HATCH
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 30%;"> <p>② Raster in center put jumper box in here.</p> <p>③ Raster in right side put jumper box in here and adj. VR701.</p> </div> <div style="width: 40%; text-align: center;"> </div> <div style="width: 30%; text-align: right;"> <p>① Raster in left side put jumper box in here and adj. VR701.</p> </div> </div>			
H-WIDTH	VR401	H-width=260±3mm with OSD H-width manual is min..	VII1024-75 , X'HATCH
	OSD. H-WIDTH MANUAL	H-WIDTH=270±5mm	All of PRESET modes , X'HATCH
V-SIZE	OSD V-SIZE MANUAL	V-SIZE=202±5mm	All of PRESET modes , X'HATCH
	OSD. SIDE-PIN MANUAL	PINCUSHION ≤ 1.5mm BEZEL ≤ 1mm	All of PRESET modes , X'HATCH
	OSD. KEYSTONE MANUAL	≤ 3mm	All of PRESET modes , X'HATCH
	OSD. PARALLEL MANUAL	≤ 3mm	All of PRESET modes , X'HATCH
	OSD. ROTATION MANUAL	≤ 2mm	All of PRESET modes , X'HATCH
SCREEN	FBT SCREEN VR	Raster=1~2FL when Brightness value=100, Contrast value=100.	VGA-400 , MOSAIC
FOCUS	FBT FOCUS VR	Optimum point	SVGAIII(48K) , "m"

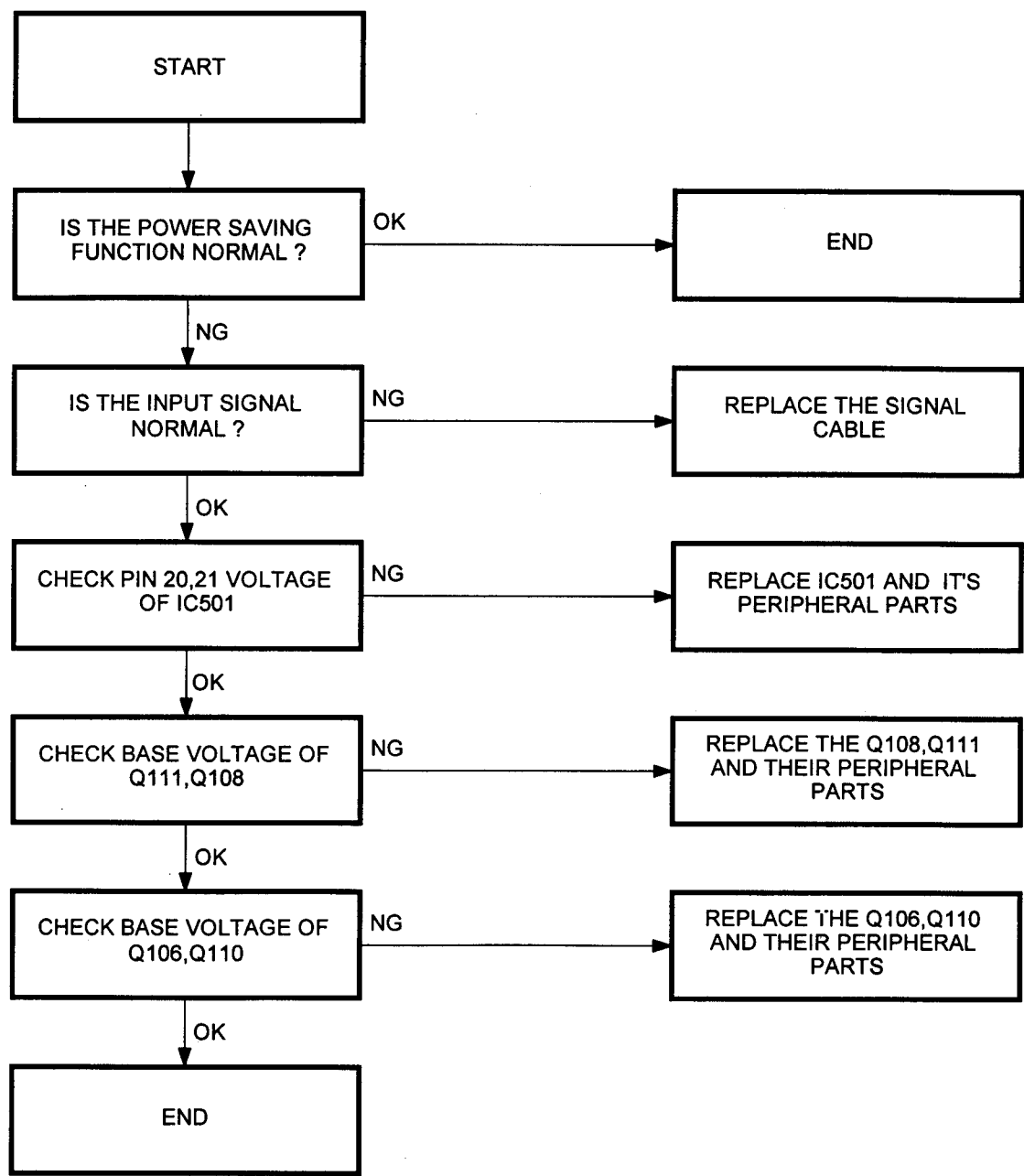
ADJUSTMENT	LOCATION	SPECIFICATION/DESCRIPTION	TIMING & PATTERN
WHITE BALANCE PRE-SET	OSD. COLOR MANUAL	MODE 1 9300 °K CONTRAST value=100	
	OSD. R.G.B. GAIN/BIAS	DAC VALUE=50	
WHITE BALANCE PRE-ADJ	OSD. G2 MANUAL	RASTER Y=1~2FL	VGA-480 , MOSAIC
	OSD R.G.B. BIAS	RASTER x=0.281±0.01, y=0.311±0.01	VGA-480 , MOSAIC
	OSD. G2 MANUAL	RASTER 0.02FL, When BRIGHTNESS value=50 CONTRAST value=100	VGA-480 , MOSAIC
	OSD. SUB-CONT MANUAL	MOSAIC Y=53±1FL	VGA-480 , MOSAIC
WHITE BALANCE ADJ.	OSD. R.G.B. BIAS	x=0.281±0.015 ; y=0.311±0.015, When BRIGHTNESS value=50 and adjust CONTRAST to get the picture is in 2~3FL.	VGA-480 , FULL WHITE
	OSC. R.G.B. BIAS	x=0.281±0.02 ; y=0.311±0.02 When BRIGHTNESS value=0 and CONTRAST value=100	VGA-480 , FULL WHITE
	OSD. R.G.B. GAIN	x=0.281±0.02 , y=0.311±0.02 When BRIGHTNESS value=50 and CONTRAST value=100	VGA-480 , FULL WHITE
CONVERGENCE	4 POLE OF PCM	Vertical RED and BLUE lines are converged by varying the angle between the two tabs.	VGA-480 , MAGERTA X'HATCH
	4 POLE OF PCM	Horizontal RED and BLUE lines are converged by moving the two tabs at the same time.	VGA-480 , MAGENTA X'HATCH
	6 POLE OF PCM	Vertical GREEN and MAGENTA lines are converged by varying the angle between the two tabs.	VGA-480 , X'HATCH
	6 POLE OF PCM	Horizontal GREEN and MAGENTA lines are converged by moving the two tabs at the same time.	VGA-480 , X'HATCH
	 <p>DEFLECTION YOKE</p> <p>6-POLE CONVERGENCE MAGNETS</p> <p>4-POLE CONVERGENCE MAGNETS</p> <p>PURITY MAGNETS</p> <p>PCM:PURITY CONVERGENCE MAGNET</p>		

7.0 TROUBLESHOOTING

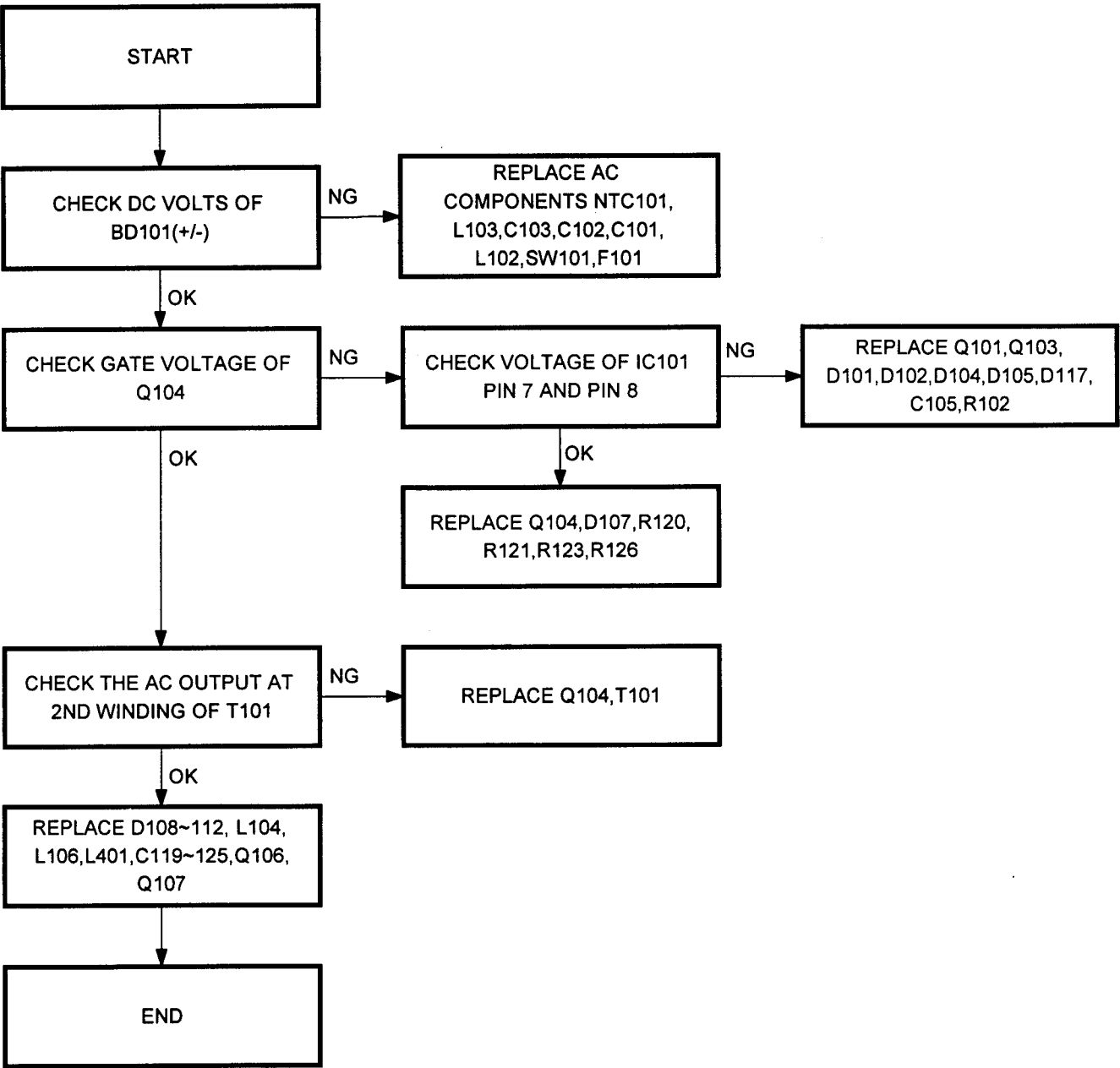
7.1 MAIN TROUBLESHOOTING ROUTINE



7.2 POWER SAVING CIRCUIT TROUBLESHOOTING ROUTINE



7.3 POWER SUPPLY CIRCUIT TROUBLESHOOTING ROUTINE



VOLTAGE MEASURED RECORD

TEST CONDITIONS: TIMING : VGA-480
PATTERN: CROSS HATCH

Unit: Volt

TR	Q106 (2SB772)			Q107 (2SD882)			Q108 (C945)		
PIN STATUS	E	C	B	E	C	B	E	C	B
NORMAL	24.82	24.71	24.10	12.06	15.28	12.72	GND	0.07	0.68
SUSPEND	26.17	2.39	26.17	1.66	13.80	2.22	GND	26.15	0.04
OFF	27.14	2.42	27.14	1.66	15.22	2.24	GND	27.13	0.04

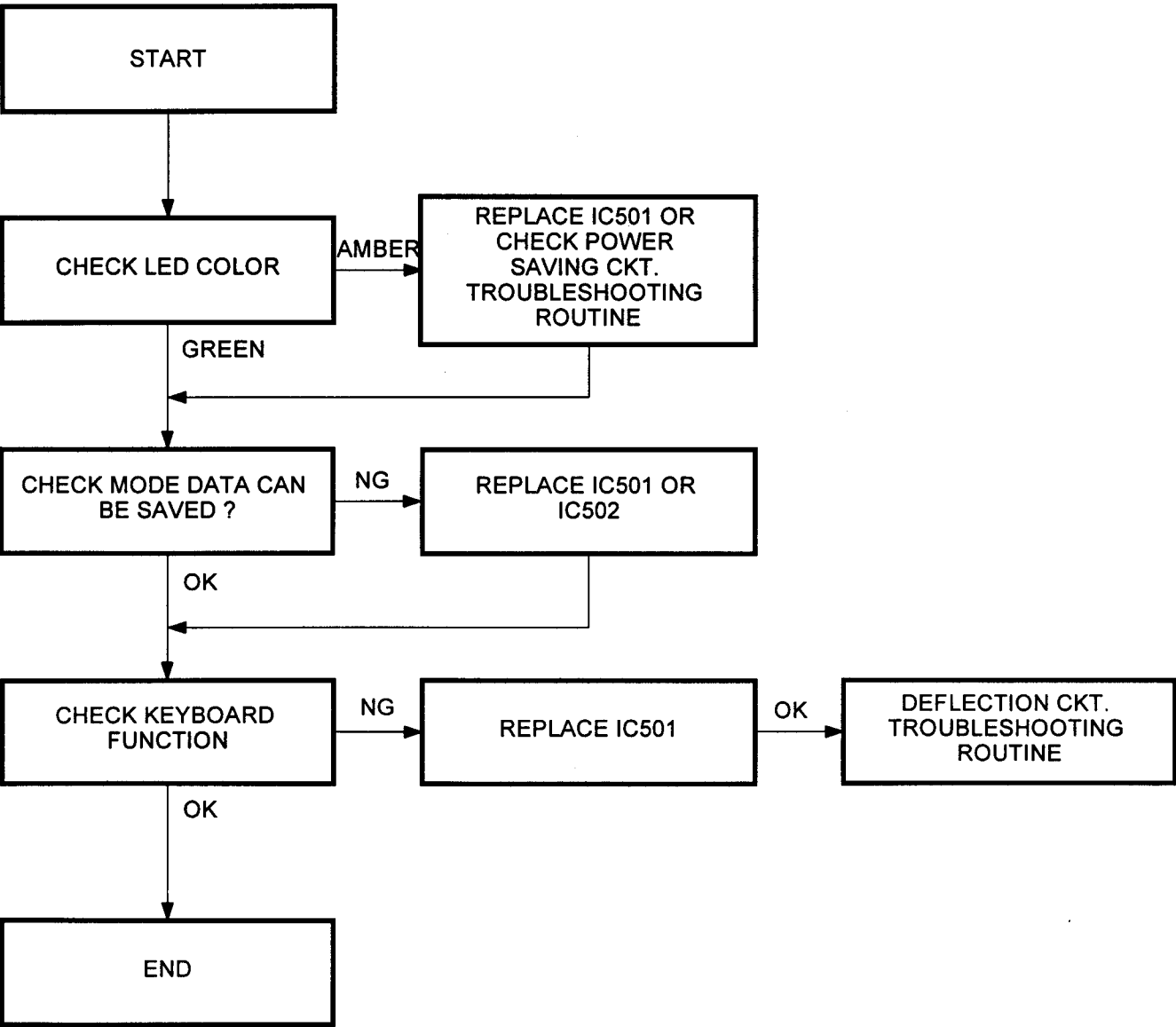
TR	Q109 (C945)			Q110 (2SB772)			Q111 (C945)		
PIN STATUS	E	C	B	E	C	B	E	C	B
NORMAL	6.21	12.72	6.83	7.14	7.05	6.41	GND	0.08	0.69
SUSPEND	1.66	2.23	0.94	5.51	5.41	4.80	GND	0.07	0.69
OFF	1.66	2.24	0.94	8.01	0	8.00	GND	8.00	0.04

IC	IC102 (C7805)			IC (68P61)		TR	Q102 (C945)		
PIN STATUS	I	G	O	20	21	PIN STATUS	E	C	B
NORMAL	12.11	GND	5.01	4.97	4.97	NORMAL	GND	12.04	-0.01
SUSPEND	9.62	GND	5.02	4.97	0.08	DEGAUSS	GND	0.16	0.84
OFF	11.58	GND	5.02	0.08	0.08				

TR	Q101 (BT169D)			Q103 (2SC945)			Q104 (2SK1507)		
PIN AC IN	K	G	A	E	C	B	G	D	S
110V	1.63	0	136.7	GND	0.00	0.73	3.45	136.5	0.10
220V	0.72	0	292.1	GND	0.00	0.72	1.37	292.8	0.05

IC	IC101 (3842)								
PIN AC IN	1	2	3	4	5	6	7	8	
110V	3.65	2.49	0.18	0.78	GND	3.84	14.89	4.99	
220V	3.73	2.49	0.22	0.81	GND	1.74	14.85	4.99	

7.4 MICON CIRCUIT TROUBLESHOOTING ROUTINE



Transistor & Integration circuit

Unit: Volt

TR	Q501 (733)			Q502 (A733)			Q503 (C945)		
PIN MODE	E	C	B	E	C	B	E	C	B
VGA-480	7.44	-0.55	5.00	4.31	4.97	5.00	2.44	9.99	3.05
VESA 53K	7.44	-0.50	5.00	4.31	4.98	5.00	2.68	9.96	3.30
VESA 68K	7.44	-0.49	5.00	4.31	4.98	5.00	2.69	9.96	3.30

TR	Q504 (A733)			Q508 (C945)			Q509 (C945)		
PIN MODE	E	C	B	E	C	B	E	C	B
VGA-480	10.61	1.07	9.99	4.99	12.04	5.00	4.99	9.23	5.00
VESA 53K	10.58	1.42	9.96	5.00	12.04	5.00	0.21	0.24	0.96
VESA 68K	10.58	1.41	9.96	0.23	0.26	0.98	0.24	0.26	0.99

TR	Q510 (C945)			Q511 (C945)			Q512 (A733)		
PIN MODE	E	C	B	E	C	B	E	C	B
VGA-480	4.99	8.27	5.00	0.50	5.00	0.78	3.35	0.57	2.79
VESA 53K	0.25	0.28	1.01	0.29	5.00	0.53	3.35	0.57	2.80
VESA 68K	0.28	0.31	1.03	0.33	5.00	0.58	3.35	0.57	2.80

TR	Q515 (C945)			Q516 (JC337)			Q517 (JC337)		
PIN MODE	E	C	B	E	C	B	E	C	B
VGA-480	10.92	12.04	11.35	0	13.65	0.57	13.06	24.68	13.65
VESA 53K	4.88	12.05	4.62	0	13.68	0.57	13.09	25.04	13.68
VESA 68K	0.80	12.05	0.16	0	13.68	0.57	13.09	25.12	13.68

TR	Q518 (A733)			Q522 (C945)			Q523 (C945)		
PIN MODE	E	C	B	E	C	B	E	C	B
VGA-480	10.92	0	11.35	0	3.49	0.01	0	0.01	0.65
VESA 53K	4.88	0	4.62	0	2.69	0.27	0	0.27	0.22
VESA 68K	0.80	0	0.16	0	3.03	0.30	0	0.30	0.26

IC	IC501 (68P61)									
PIN	1	2	3	4	5	6	7	8	9	10
MODE										
VGA-480	2.46	0.13	2.31	4.98	5.00	0	2.66	2.50	5.01	5.01
VESA 53K	3.28	0.15	2.21	4.98	5.00	0	2.66	2.50	5.01	5.01
VESA 68K	1.74	0.11	2.15	4.98	5.00	0	2.66	2.50	5.01	5.01

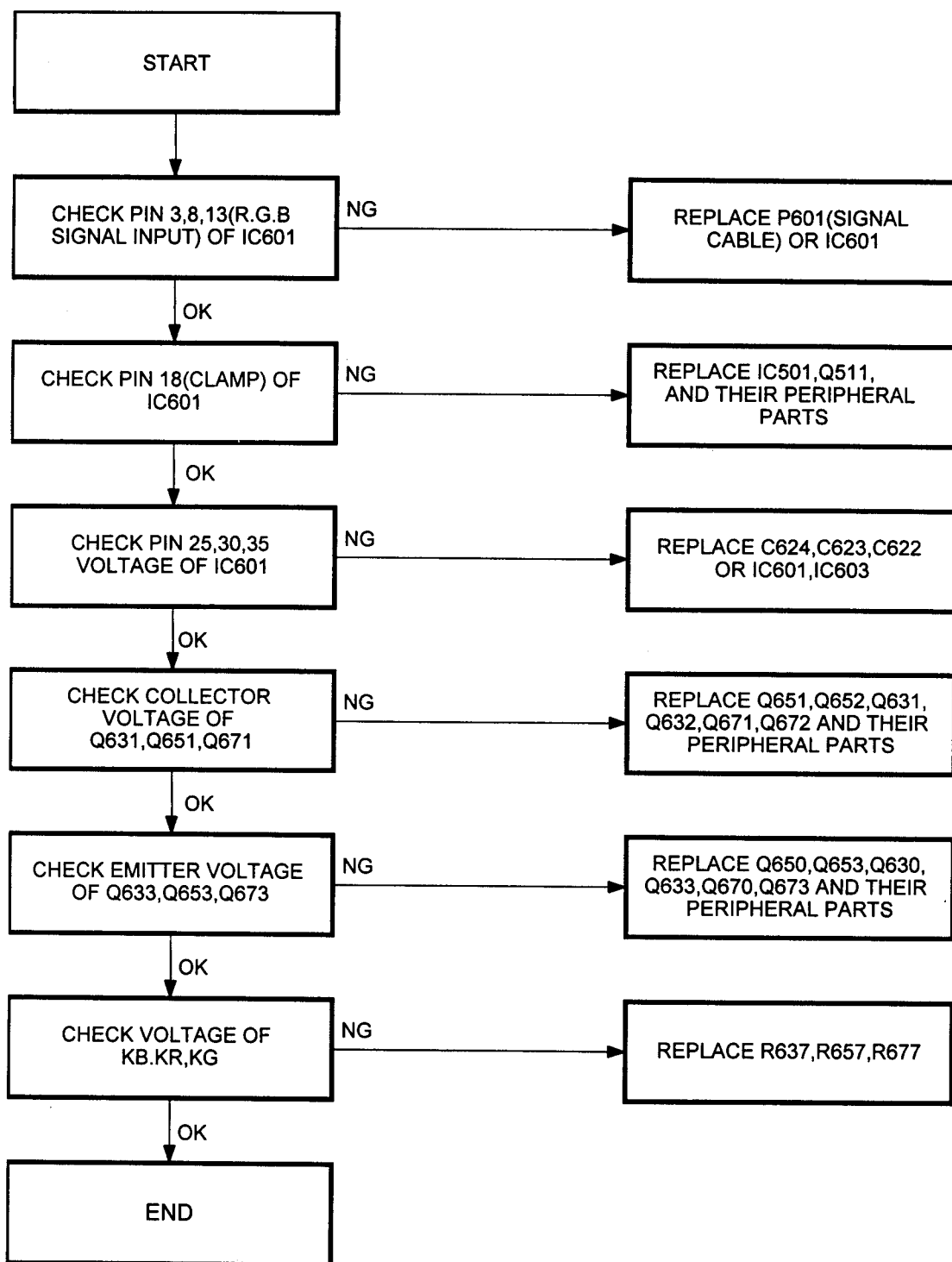
IC	IC501 (68P61)									
PIN	11	12	13	14	15	16	17	18	19	20
MODE										
VGA-480	5.00	5.00	5.00	5.00	5.00	4.99	5.00	5.00	5.00	4.98
VESA 53K	5.00	5.00	5.00	5.00	5.00	4.99	0.25	0.21	5.00	4.98
VESA 68K	5.00	5.00	5.00	5.00	5.00	4.99	0.28	0.24	0.23	4.98

IC	IC501 (68P61)									
PIN	21	22	23	24	25	26	27	28	29	30
MODE										
VGA-480	4.98	0.08	0.02	0	4.99	2.01	4.99	4.99	0.03	0.70
VESA 53K	4.98	0.14	0.08	0	5.00	2.01	5.00	5.00	0.08	2.01
VESA 68K	4.98	0.17	0.11	0	5.00	2.01	5.00	5.00	0.05	2.02

IC	IC501 (68P61)									
PIN	31	32	33	34	35	36	37	38	39	40
MODE										
VGA-480	3.72	0.23	0.78	11.30	1.88	1.15	0.56	1.23	3.77	4.61
VESA 53K	2.81	0.24	0.53	4.61	1.81	1.61	0.99	1.14	0.34	0.03
VESA 68K	3.21	0.24	0.58	0.18	1.83	1.63	0.98	1.17	0.38	0.03

IC	IC502 (24C04)							
PIN	1	2	3	4	5	6	7	8
MODE								
VGA-480	5.01	0	5.01	0	5.00	5.00	0	5.01

7.5 VIDEO CIRCUIT TROUBLESHOOTING ROUTINE



The following voltage records was measured with full white cross-hatch pattern.

Transistor & Integration circuit

Unit: Volt

TR	Q605 (C945)			Q630,650,670 (C3953)			Q631,651,671 (C3953)		
PIN	E	C	B	E	C	B	E	C	B
Full White	3.77	4.90	4.38	50.12	85.44	61.45	11.28	55.46	11.91
Cross-hatch	3.76	4.90	4.38	68.44	86.62	71.50	11.32	65.90	11.94

TR	Q632,652,672 (PH2369)			Q633,653,673 (A1370)			Q634,654,674 (BF423)		
PIN	C	B	E	E	C	B	E	C	B
Full White	11.28	2.95	2.33	49.33	0	54.87	50.72	0	51.27
Cross-hatch	11.33	1.78	1.16	67.86	0	65.92	51.84	0	52.03

TR	Q635,655,675 (BF422)			Q661 (C945)			Q662 (C1906)		
PIN	E	C	B	E	C	B	E	C	B
Full White	4.31	47.95	4.90	0	3.23	-0.11	0	0.50	0.69
Cross-hatch	4.31	48.75	4.90	0	3.22	-0.11	0	0.51	0.69

IC	IC601 (M52737)									
PIN	1	2	3	4	5	6	7	8	9	10
Full White	0.01	11.95	2.94	2.74	0.01	0	11.95	2.86	3.52	0.01
Cross-hatch	0.01	11.97	2.50	2.74	0.01	0.00	11.96	2.49	3.52	0.01

IC	IC601 (M52737)									
PIN	11	12	13	14	15	16	17	18	19	20
Full White	0	11.95	2.94	3.16	0.01	0	3.01	0.09	2.06	0.50
Cross-hatch	0	11.96	2.50	3.16	0.01	0	3.34	0.09	2.06	0.51

IC	IC601 (M52737)									
PIN	21	22	23	24	25	26	27	28	29	30
Full White	0	0	4.03	11.92	3.04	0	0	4.04	11.92	2.98
Cross-hatch	0	0	4.02	11.95	1.81	0	0	4.03	11.95	1.80

IC	IC601 (M52737)					
PIN	31	32	33	34	35	36
MODE						
Full White	0	0	4.06	11.92	2.83	1.44
Cross-hatch	0	0	4.05	11.95	1.78	1.44

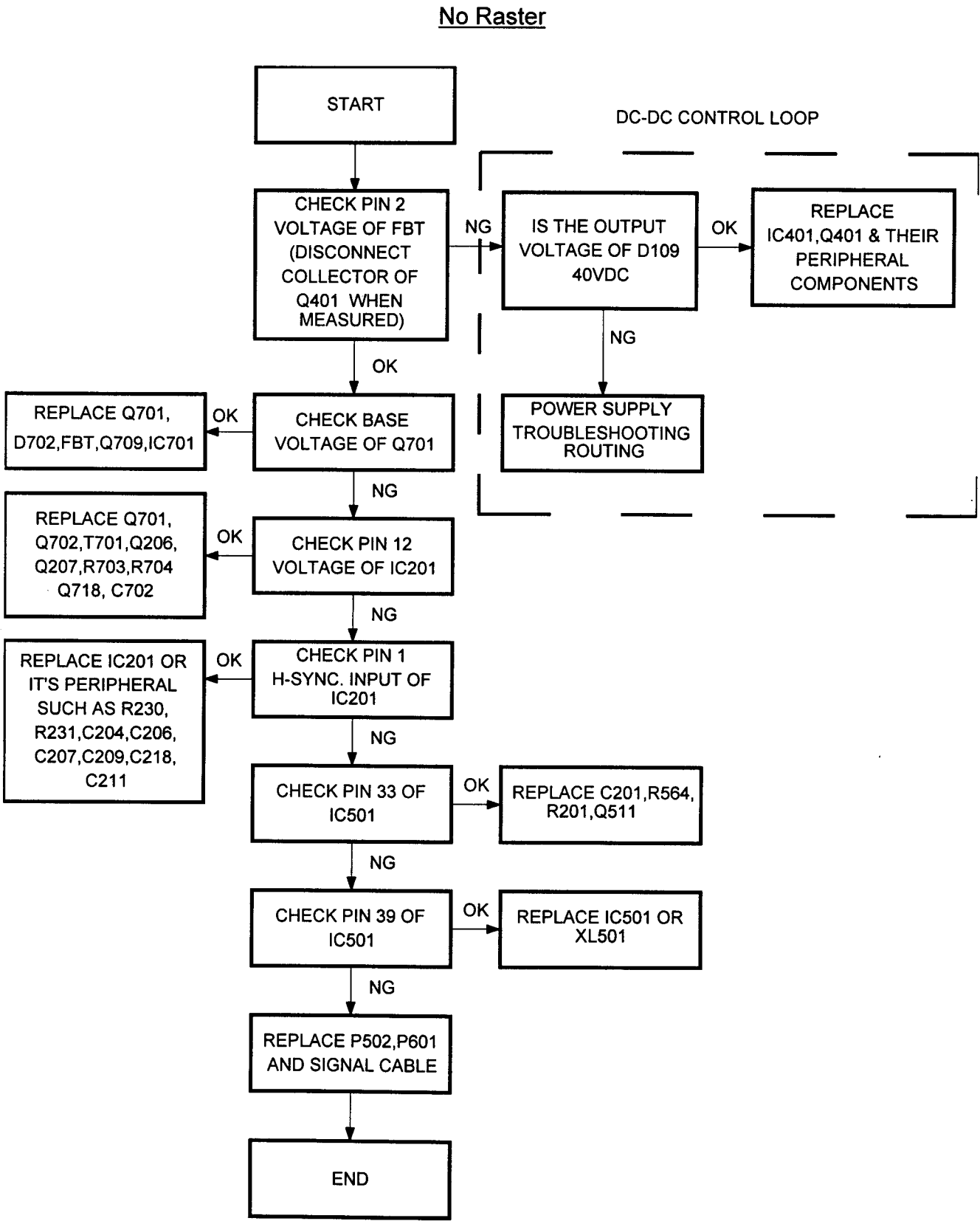
IC	IC603 (STV9425)									
PIN	1	2	3	4	5	6	7	8	9	10
MODE										
Full White	2.89	4.12	0.01	0.21	0.50	4.90	1.05	2.38	2.08	2.02
Cross-hatch	2.90	4.12	0.01	0.22	0.51	4.90	1.05	2.38	2.08	2.02

IC	IC603 (STV9425)									
PIN	11	12	13	14	15	16	17	18	19	20
MODE										
Full White	2.43	3.39	4.87	2.78	4.92	4.92	4.89	0	0.01	0.01
Cross-hatch	2.43	3.39	4.88	2.78	4.92	4.92	4.89	0	0.01	0.01

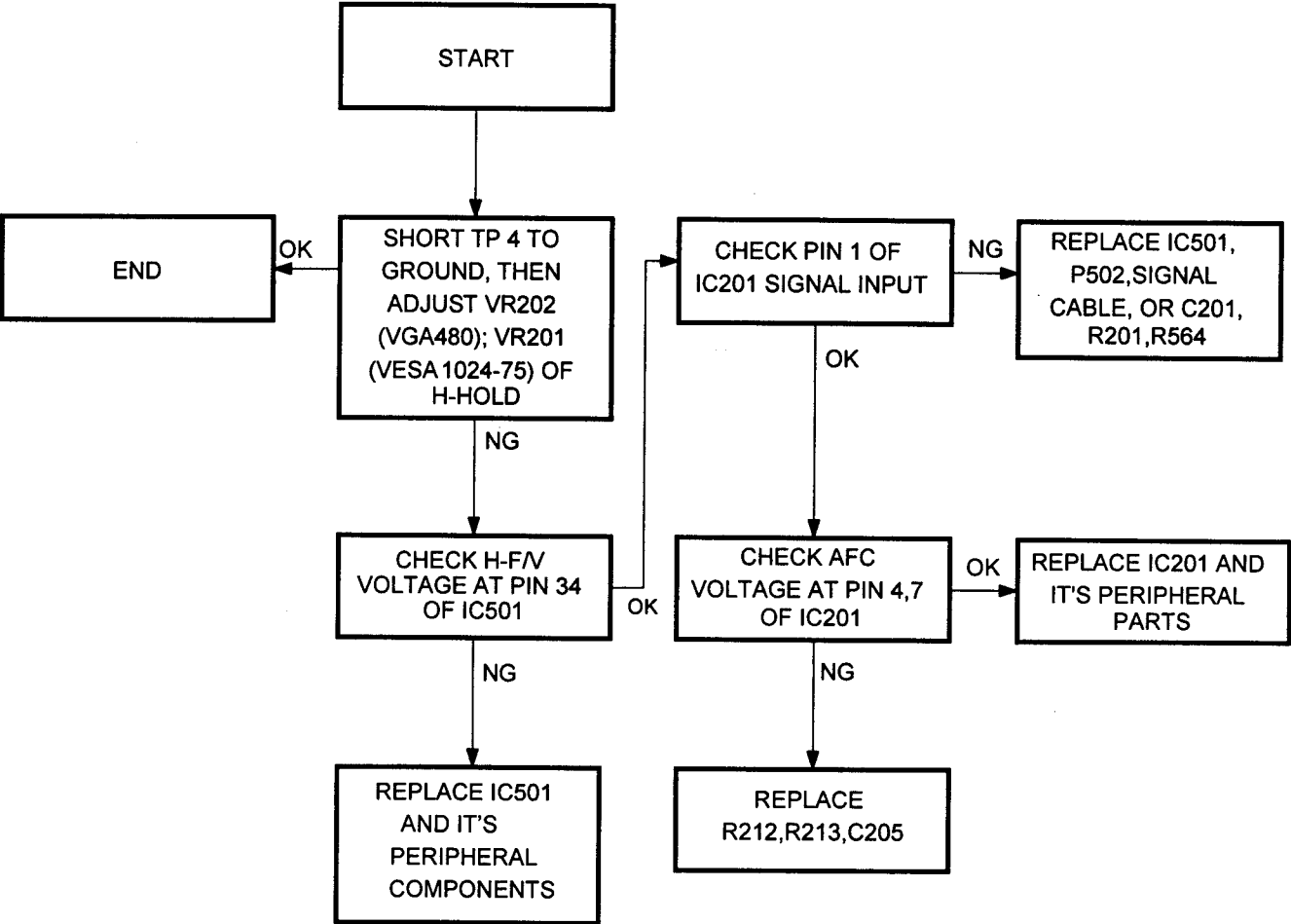
IC	IC603 (STV9425)									
PIN	21	22	23	24						
MODE										
Full White	0.01	0	3.54	3.98						
Cross-hatch	0.01	0	3.54	3.99						

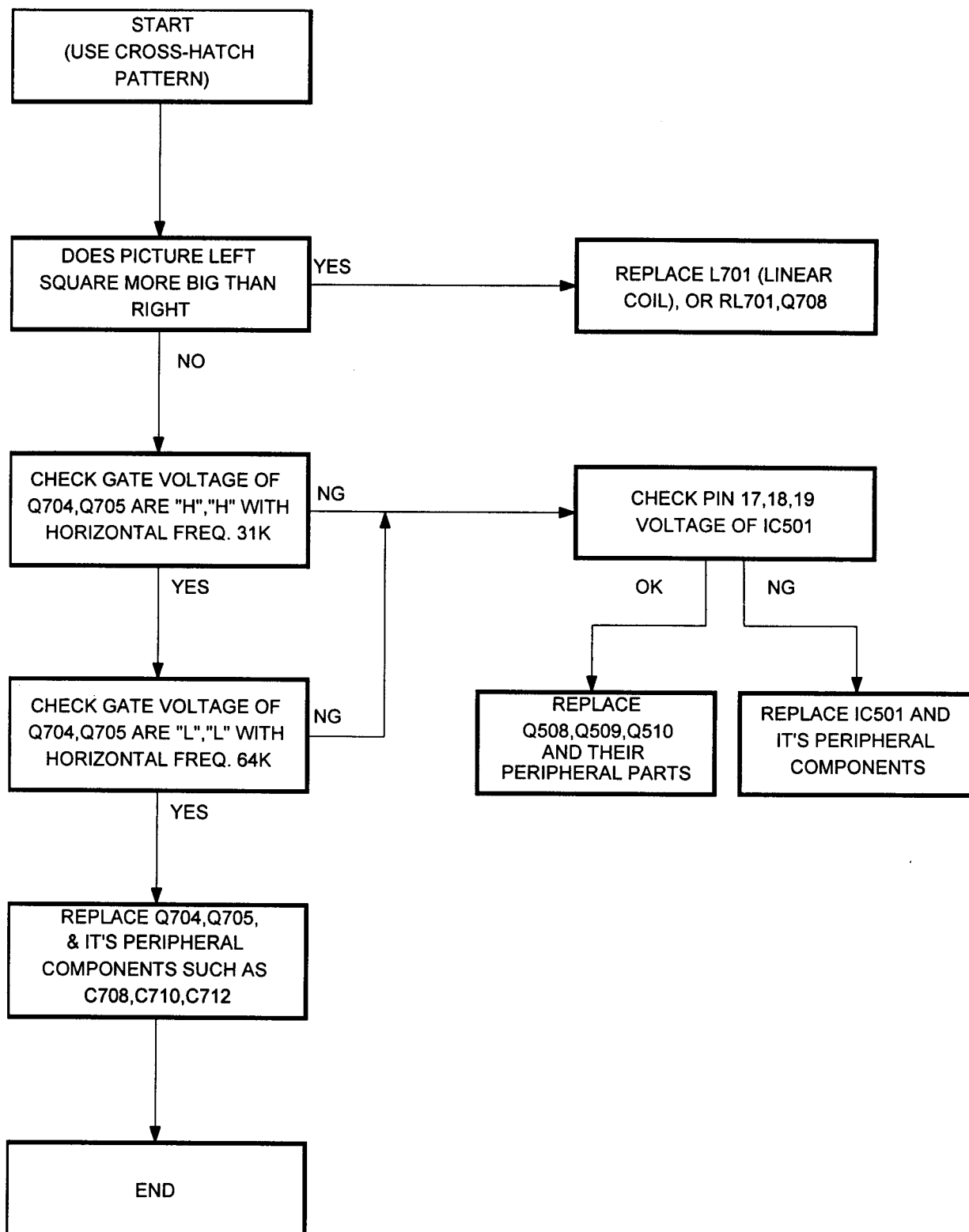
7.6 DEFLECTION CIRCUIT TROUBLESHOOTING ROUTINE

7.6.1 Horizontal Deflection Circuit



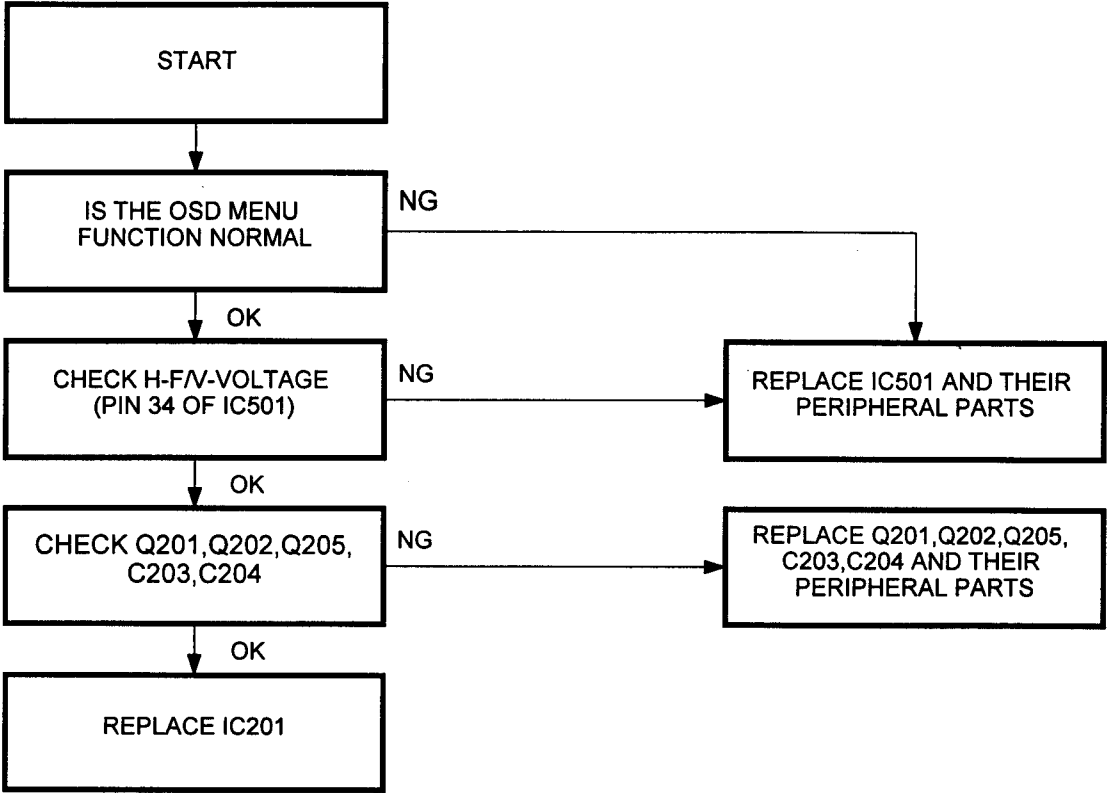
H-Asynchronous



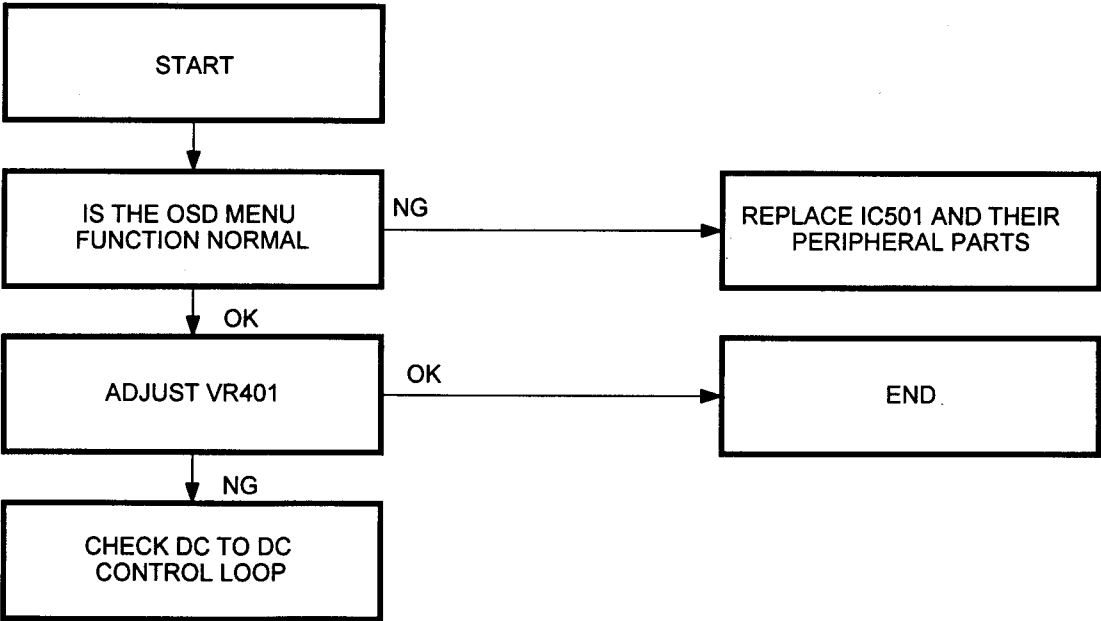
Linearity

REMARK: "L" means the voltage between gate and source is $<4V$ which can't turn on the MOSFET.
 "H" means the voltage between gate and source is $\geq 4V$ which can turn on the MOSFET.

Out of phase

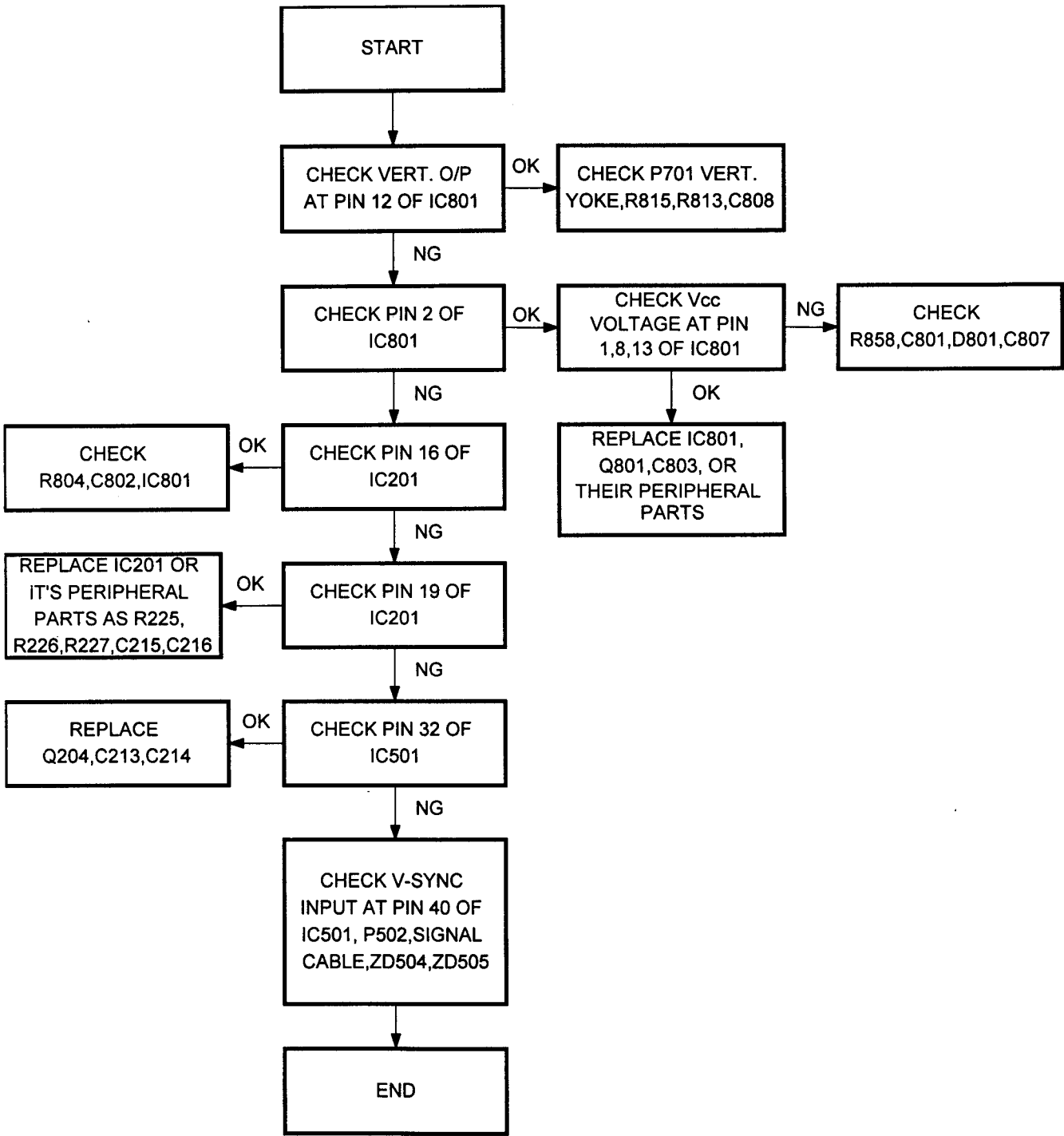


Width Abnormal

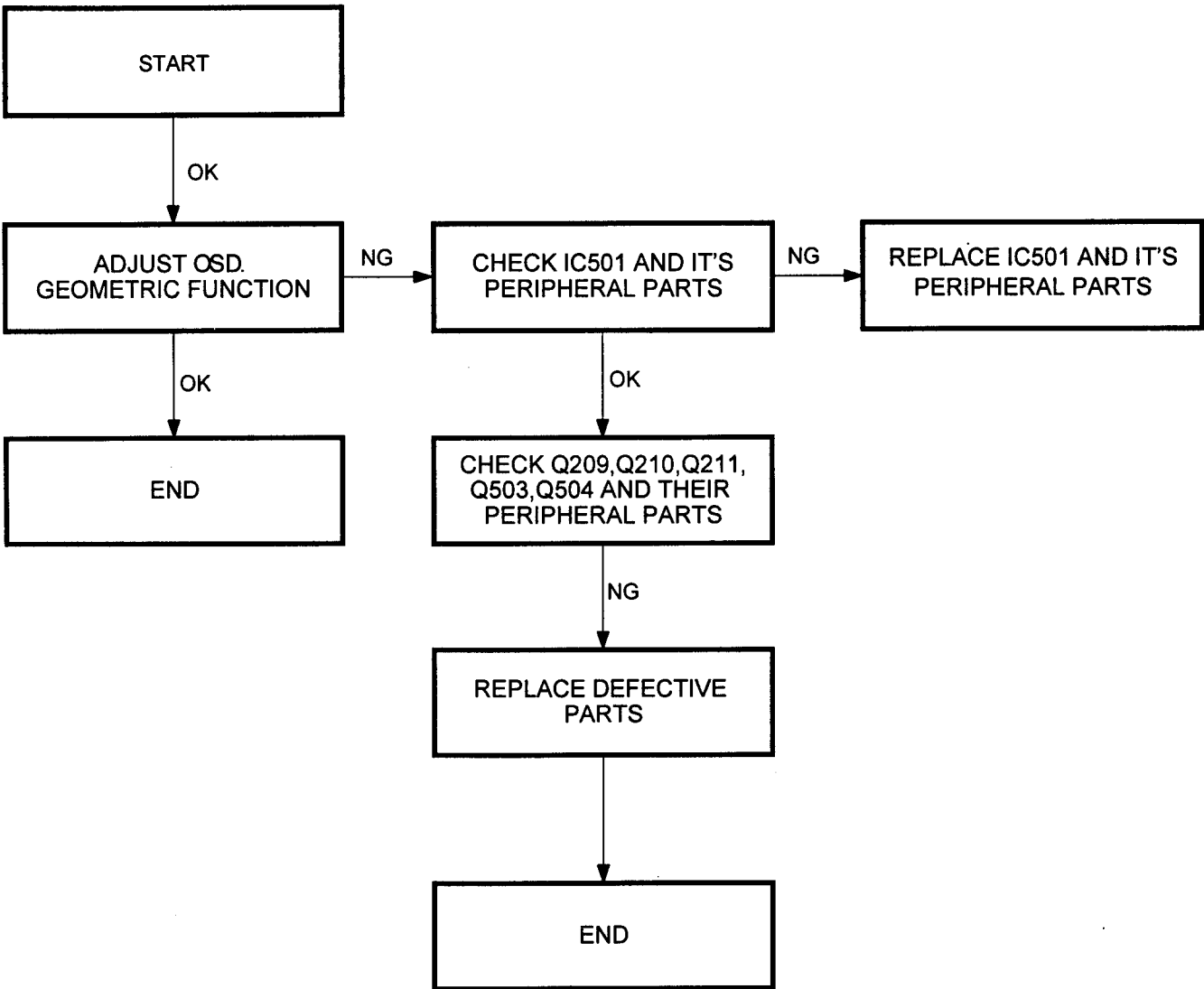


7.6.2 Vertical Deflection Circuit

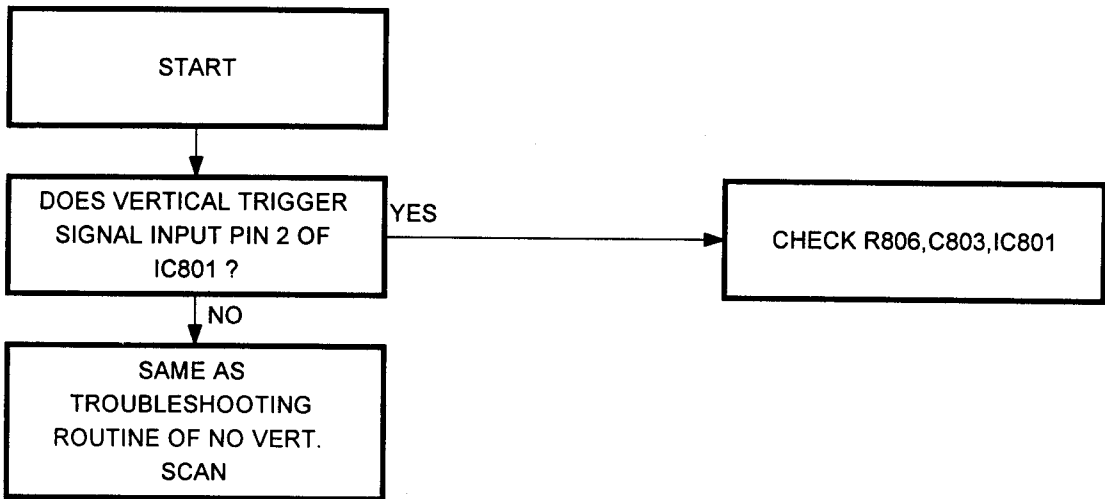
No vertical scan



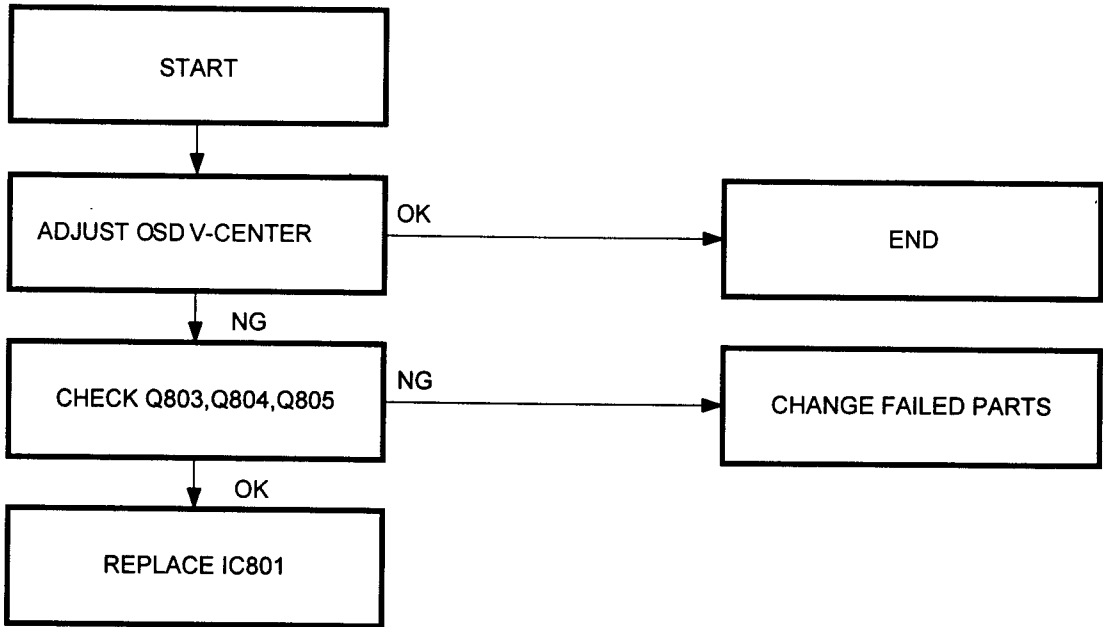
Picture distortion



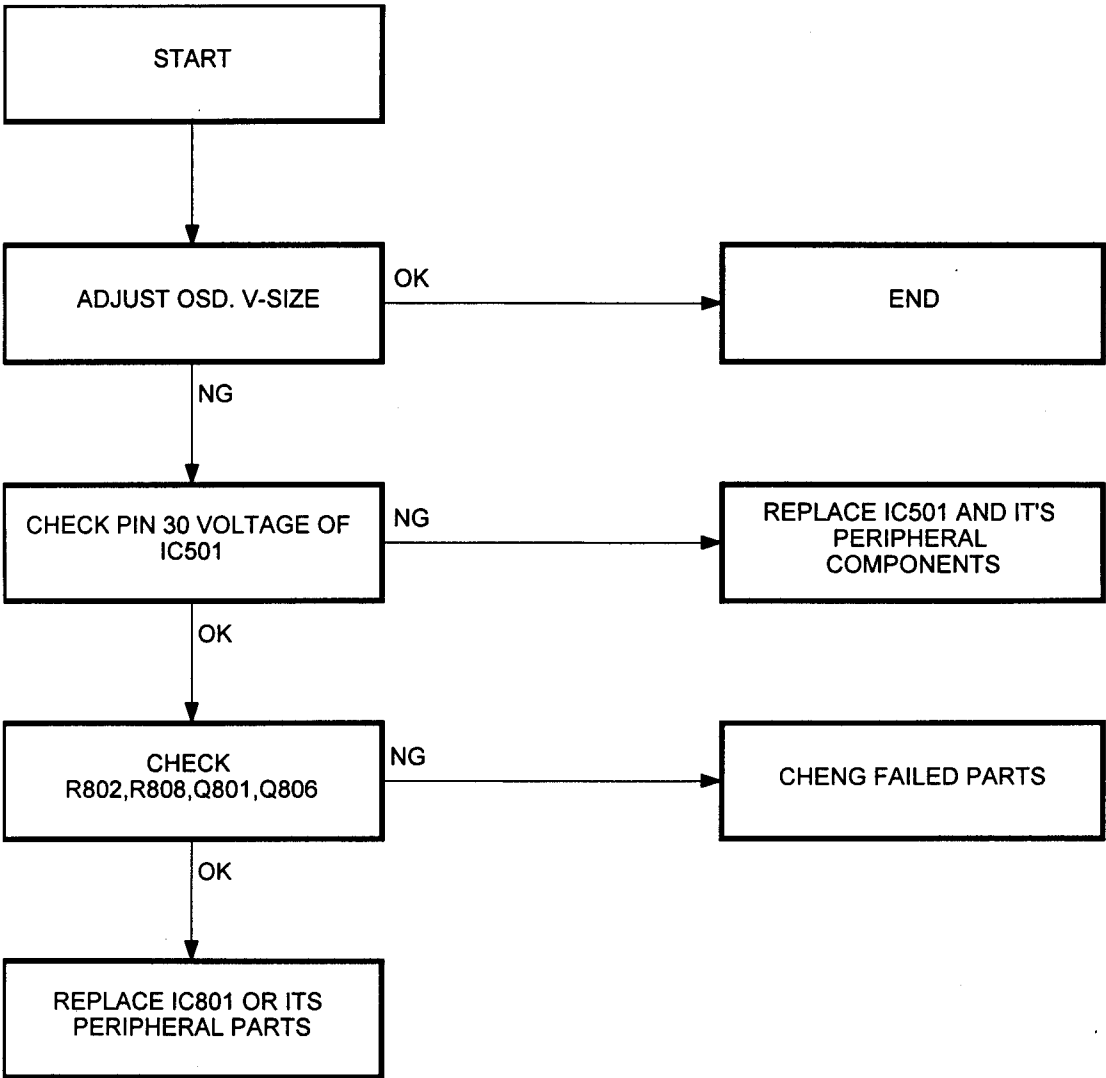
V-Asynchronous



Vertical position



Vertical Size



The following voltage records were measured with cross-hatch pattern.

Transistor

Unit:: volt

TR	Q201 (A733)			Q202 (C945)			Q203 (A733)		
PIN	E	C	B	E	C	B	E	C	B
MODE									
VGA-480	4.02	0	3.40	GND	0	0.70	10.52	5.83	9.92
VESA 53K	3.44	0	2.81	GND	2.54	0.16	9.61	5.78	9.00
VESA 68K	2.85	0	2.22	GND	2.20	0.18	8.99	5.76	8.38

TR	Q204 (C945)			Q205 (C945)			Q206 (C945)		
PIN	E	C	B	E	C	B	E	C	B
MODE									
VGA-480	0.04	11.71	0.23	3.40	11.71	4.05	4.28	11.71	4.37
VESA 53K	0.04	11.71	0.24	2.81	11.71	3.46	4.32	11.70	4.34
VESA 68K	0.04	11.70	0.24	2.22	11.70	2.86	4.28	11.70	4.25

TR	Q207 (A733)			Q209 (C945)			Q210 (C945)		
PIN	E	C	B	E	C	B	E	C	B
MODE									
VGA-480	4.28	0	4.37	1.51	4.36	2.16	4.36	12.04	4.99
VESA 53K	4.32	0	4.34	1.51	4.36	2.16	4.36	12.04	4.99
VESA 68K	4.28	0	4.25	1.50	4.36	2.16	4.36	12.04	5.00

TR	Q211 (C945)			Q401 (FS12UM-5)			Q701 (C4924)		
PIN	E	C	B	G	D	S	B	C	E
MODE									
VGA-480	4.36	9.25	4.99	1.97	40.68	0.06	-0.96	52.43	0
VESA 53K	4.36	9.38	4.99	3.93	40.94	0.13	-1.14	90.85	0
VESA 68K	4.36	9.32	4.99	5.10	40.97	0.17	-1.05	120.9	0

TR	Q702 (C2688)			Q704 (FS12UM)			Q705 (FS12UM)		
PIN	E	C	B	G	D	S	G	D	S
MODE									
VGA-480	0	82.89	0.20	12.04	0	0	9.23	0	0
VESA 53K	0	83.77	0.17	12.04	0	0	0.24	36.90	0
VESA 68K	0	83.86	0.11	0.26	37.66	0	0.26	37.85	0

TR	Q708 (JC337)			Q709 (7KM16A)			Q711 (A733)		
PIN									
MODE	E	C	B	G	D	S	E	C	B
VGA-480	0	0.04	0.70	15.42	4.94	0	17.12	12.01	16.55
VESA 53K	0	12.01	0.25	14.77	9.80	0	17.40	9.46	16.93
VESA 68K	0	12.02	0.27	14.20	13.05	0	17.48	9.08	17.06

TR	Q712 (A733)			Q713 (C945)			Q714 (A733)		
PIN									
MODE	E	C	B	E	C	B	E	C	B
VGA-480	15.83	0	11.97	15.42	24.19	15.83	15.42	0	15.83
VESA 53K	15.14	0	9.46	14.77	24.48	15.14	14.77	0	15.14
VESA 68K	14.55	0	9.08	14.21	24.55	14.55	14.21	0	14.55

TR	Q715 (BF423)			Q716 (C945)			Q717 (C945)		
PIN									
MODE	E	C	B	E	C	B	E	C	B
VGA-480	2.56	-0.64	1.98	GND	0.29	0.75	GND	0.02	0.70
VESA 53K	2.71	-1.69	2.15	GND	0.38	0.74	GND	0.46	-0.59
VESA 68K	2.70	-1.68	2.15	GND	0.38	0.74	GND	0.49	-0.64

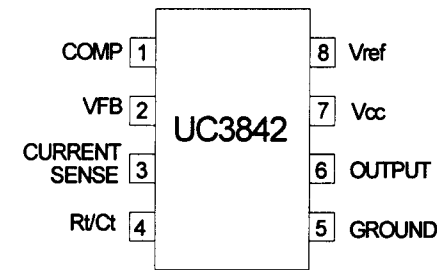
TR	Q718 (JC327)			Q721 (A733)			Q722 (C945)		
PIN									
MODE	E	C	B	E	C	B	E	C	B
VGA-480	-0.07	-0.57	0.41	1.93	GND	1.29	GND	0.75	0.01
VESA 53K	-0.03	-1.14	0.44	2.10	GND	1.48	GND	0.74	0.04
VESA 68K	-0.02	-1.05	0.46	2.57	GND	1.94	GND	0.74	0.05

TR	Q801 (C945)			Q802 (A733)			Q803 (C945)		
PIN									
MODE	E	C	B	E	C	B	E	C	B
VGA-480	2.50	6.06	3.01	6.04	GND	6.05	0.74	10.15	1.35
VESA 53K	3.38	6.05	3.91	6.05	GND	6.06	0.69	11.27	1.30
VESA 68K	3.39	6.05	3.91	6.05	GND	6.06	0.71	11.14	1.31

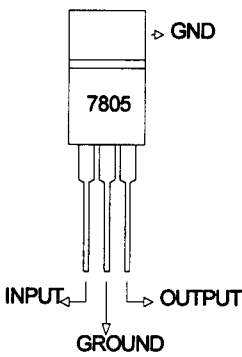
TR	Q804 (JC337)			Q805 (JC327)			Q806 (A733)		
PIN									
MODE	E	C	B	E	C	B	E	C	B
VGA-480	10.66	24.68	10.69	10.66	0	10.10	3.01	0	2.39
VESA 53K	11.76	25.04	11.79	11.76	0	11.21	3.91	0	3.29
VESA 68K	11.60	25.11	11.62	11.60	0	11.05	3.91	0	3.29

8.0 IC CONFIGURATION

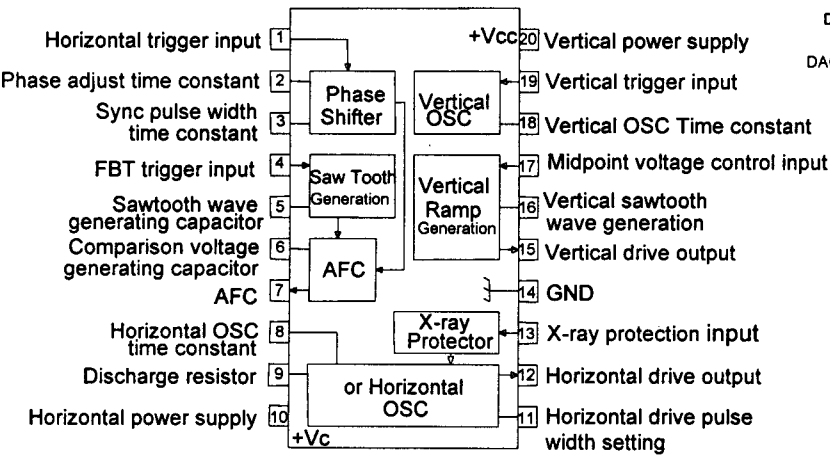
(1) IC101,IC401 (3842,3843)



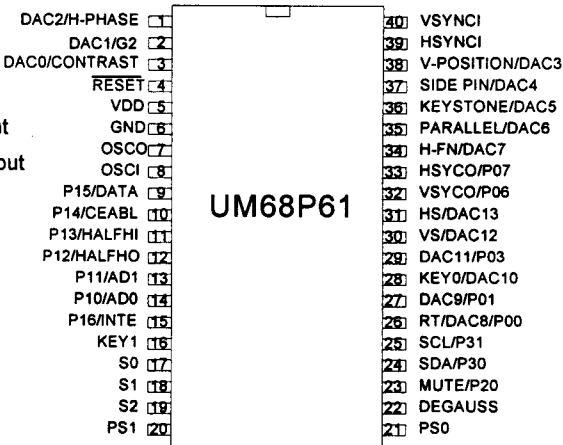
(2) IC102 (7805)



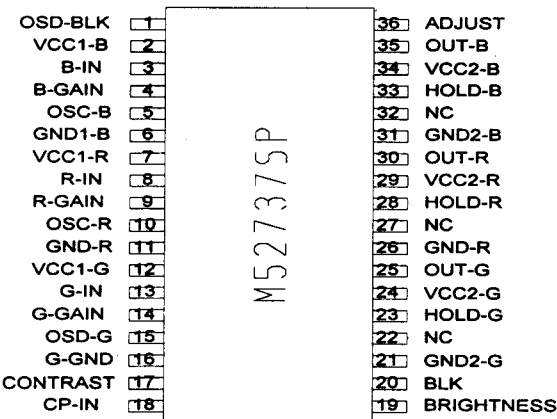
(3) IC201 (LA7856)



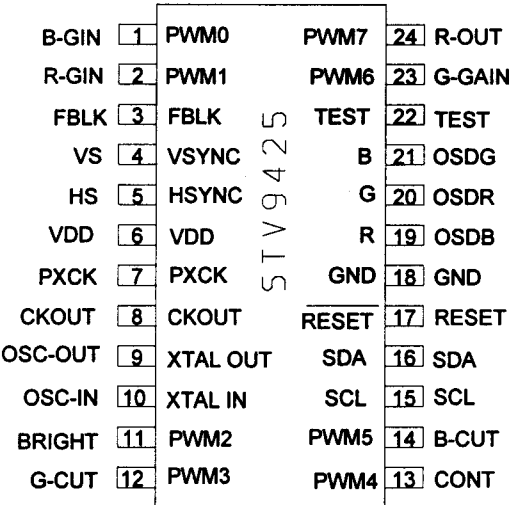
(4) IC501 (UM68P61)



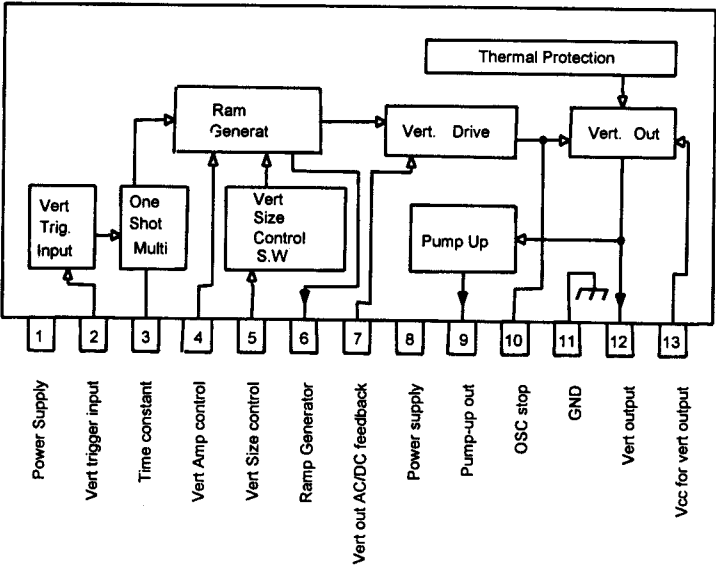
(5) IC601 (M52737SP)



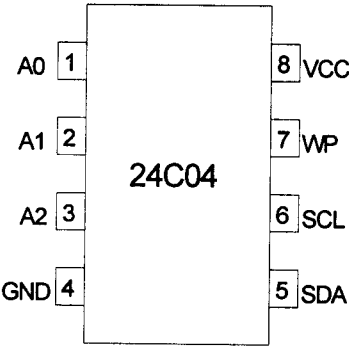
(6) IC603 (STV9425)



(7) IC801 (LA7838)



(8) IC502 (24C04)



9.0 PARTS LIST

1569VL Parts List

Abbreviations : Capacitors	EL: Electrolytic Aluminum, TA: Tantalum, CE: Ceramic
	PP: Polypropylene, PEI: Polyster (Inductive),
	PEN: Polyster (Non-Inductive) PPS: Serial Poly Propylene,
	MPE: Polyster Metalized, MPP: Polypropylene Metalized.
Resistors	CF: Carbon Film, MF: Metal Film, VR: Variable Resistor.
	MOF: Metal Oxide Film, POT: Potentiometer
Semiconductor	TR: Transistor, DI: Diode, ZD: Zener Diode, IC: IC.
Remark:	●: 1st priority , Recommended Q'ty = (Location Number x3)
	⊙: 2nd priority, Recommended Q'ty = (Location Number x2)
	N : New parts
	! : Critical components Affecting X-radiation

Location	Part No.	Description	Location	Part No.	Description
TRANSISTOR			Q511	14C92-111B	TR NPN 2SC945P/Q
Q101	14T92-011E	TR SCR BT169D	Q512	14A92-021B	TR PNP 2SA733P/Q
Q102	14C92-111B	TR NPN 2SC945P/Q	Q515	14C92-111B	TR NPN 2SC945P/Q
Q103	14C92-111B	TR NPN 2SC945P/Q	Q516	14C92-311E	TR NPN JC337-25
● Q104	14K22-150U	TR MOS FET FS10KM-12	Q517	14C92-311E	TR NPN JC337-25
Q106	14B26-030B	TR PNP 2SB772	Q518	14A92-021B	TR PNP 2SA733P/Q
Q107	14D26-010B	TR NPN 2SD882P/Q	Q522	14C92-111B	TR NPN 2SC945P/Q
⊙ Q108	14C92-111B	TR NPN 2SC945P/Q	Q523	14C92-111B	TR NPN 2SC945P/Q
Q109	14C92-111B	TR NPN 2SC945P/Q	Q605	14C92-111B	TR NPN 2SC945P/Q
Q110	14B26-030B	TR PNP 2SB772	Q630	14C26-160C	TR NPN 2SC3953
⊙ Q111	14C92-111B	TR NPN 2SC945P/Q	Q632	14C92-031E	TR NPN PH2369
⊙ Q201	14A92-021B	TR PNP 2SA733P/Q	Q633	14A93-041C	TR PNP 2SA1370
⊙ Q202	14C92-111B	TR NPN 2SC945P/Q	N⊙ Q634	14A92-061E	TR PNP BF423
⊙ Q203	14A92-021B	TR PNP 2SA733P/Q	Q635	14C92-011E	TR NPN BF422
Q204	14C92-111B	TR NPN 2SC945P/Q	Q650	14C26-160C	TR NPN 2SC3953
⊙ Q205	14C92-111B	TR NPN 2SC945P/Q	Q652	14C92-031E	TR NPN PH2369
⊙ Q206	14C92-111B	TR NPN 2SC945P/Q	Q653	14A93-041C	TR PNP 2SA1370
⊙ Q207	14A92-021B	TR PNP 2SA733P/Q	N⊙ Q654	14A92-061E	TR PNP BF423
Q209	14C92-111B	TR NPN 2SC945P/Q	Q655	14C92-011E	TR NPN BF422
Q210	14C92-111B	TR NPN 2SC945P/Q	Q661	14C92-111E	TR NPN 2SC945P/Q
Q211	14C92-111B	TR NPN 2SC945P/Q	Q662	14C92-281P	TR NPN 2SC1906
N● Q401	14K22-110WU	TR MOS FET FS12UM-5	Q670	14C26-160C	TR NPN 2SC3953
Q501	14A92-021B	TR PNP 2SA733P/Q	Q672	14C92-031E	TR NPN PH2369
Q502	14A92-021B	TR PNP 2SA733P/Q	Q673	14A93-041C	TR PNP 2SA1370
Q503	14C92-111B	TR NPN 2SC945P/Q	N⊙ Q674	14A92-061E	TR PNP BF423
Q504	14A92-021B	TR PNP 2SA733P/Q	Q675	14C92-011E	TR NPN BF422
Q508	14C92-111B	TR NPN 2SC945P/Q	● Q701	14C3P-150C	TR NPN 2SC4924 (LOW)
Q509	14C92-111B	TR NPN 2SC945P/Q	Q702	14C26-040B	TR NPN 2SC2688K
Q510	14C92-111B	TR NPN 2SC945P/Q	N● Q704	14K22-110W	TR MOS FET 630/890
			N● Q705	14K22-110W	TR MOS FET 630/890

Location	Part No.	Description	Location	Part No.	Description
N Q708	14C92-311E	TR NPN JC337-25	D630	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
N⊙ Q709	14K22-280U	TR MOS FET FS7KM-16A	D631	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
⊙ Q711	14A92-021B	TR PNP 2SA733P/Q	D632	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
⊙ Q712	14A92-021B	TR PNP 2SA733P/Q	D633	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
⊙ Q713	14C92-111B	TR NPN 2SC945P/Q	D650	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q714	14A92-021B	TR PNP 2SA733P/Q	D651	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q715	14A92-061E	TR PNP BF423	D652	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q716	14C92-111B	TR NPN 2SC945P/Q	D653	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q717	14C92-111B	TR NPN 2SC945P/Q	D664	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q718	14A92-151E	TR PNP JC327-25	D670	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q721	14A92-021B	TR PNP 2SA733P/Q	D671	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q722	14C92-111B	TR NPN 2SC945P/Q	D672	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
⊙ Q801	14C92-111B	TR NPN 2SC945P/Q	D673	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q802	14A92-021B	TR PNP 2SA733P/Q	D702	15S3C-702F	DI MD SW 5A 1500V (DD54RC)
Q803	14C92-111B	TR NPN 2SC945P/Q	D703	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
Q804	14C92-311E	TR NPN JC337-25	D704	15S65M201F	DI RECTIFIER 1A 400V (1N4004)
Q805	14A92-151E	TR PNP JC327-25	D705	15S65M201F	DI RECTIFIER 1A 400V (1N4004)
⊙ Q806	14A92-021B	TR PNP 2SA733P/Q	D706	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
DIODES			D709	15S33T201F	DI MD SW 1A 200V(BYD33D)
D101	15S47T3 01F	DI HI SW 1.5A 600V (BYV36C)	D710	15S35T201F	DI MD SW 1A 200V(BYD33D)
D102	15S47T301F	DI HI SW 1.5A 600V (BYV36C)	D714	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
D103	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	D715	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
D104	15S33T201F	DI MD SW 1A 200V(BYD33D)	D801	15S62M201F	DI RECTIFIER 1A 100V (1N4002)
D105	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	D802	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
D107	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	D803	15S11M001F	DI SWITCH 0.5A 50V (1N4148)
D108	15S47T301F	DI HI SW 1.5A 600V (BYV36C)	ZENER DIODE		
D109	15S64-A01F	DI RECTIFIER 10A 300V (BYT28-300)	ZD102	15Z33M6290H	ZD 6.2V 5% 0.5W
D110	15S47TK00F	DI HI SW 2.3A 600V (BYM26C)	ZD103	15Z33M1800H	ZD 18V 5% 0.5W
D111	15S43T401T	DI HI SW 2A 200V (HER203)	! ZD201	15Z33M8290H	ZD 8.2V 5% 0.5W
D112	15S43T601T	DI HI SW 3A 200V (HER303)	ZD202	15Z33M5190H	ZD 5.1V 5% 0.5W
D113	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	ZD401	15Z33M4390P	ZD 4.3V 5% 0.5W
D114	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	ZD501	15Z33M3990H	ZD 3.9V 5% 0.5W
D116	15S33T201F	DI MD SW 1A 200V(BYD33D)	ZD502	15Z33M1200H	ZD 12V 5% 0.5W
D117	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	ZD504	15Z33M5190H	ZD 5.1V 5% 0.5W
D202	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	ZD505	15Z33M5190H	ZD 5.1V 5% 0.5W
D204	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	ZD702	15Z33M4790H	ZD 4.7V 5% 0.5W
D207	15S33T201F	DI MD SW 1A 200V(BYD33D)	ZD704	15Z33M4390P	ZD 4.3V 5% 0.5W
D401	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	RESISTORS		
D402	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	J657	22225-102M	RES CF 1K 5% 1/4W
D403	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	R101	22245-4741	RES CF 470K 5% 1/2W
D404	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	R102	23755-3634	RES MOF 36K 5% 2W
D405	15S11M001F	DI SWITCH 0.5A 50V (1N4148)	R103	23765-303B	RES MOF 30K 5% 3W
D407	15S43T601T	DI HI SW 3A 200V (HER303)	R104	23765-102B	RES MOF 1K 5% 3W
D503	15S62M201F	DI RECTIFIER 1A 100V (1N4002)	R106	22215-152M	RES CF 1K5 5% 1/8W
D504	15S11M001F	DI SWITCH 0.5A 50V (1N4148)			

Location	Part No.	Description	Location	Part No.	Description
R107	23755-8204	RES MOF 82R 5% 2W	R206	22215-511M	RES CF 510R 5% 1/8W
R109	22215-472M	RES CF 4K7 5% 1/8W	R207	22215-363M	RES CF 36K 5% 1/8W
R110	22215-822M	RES CF 8K2 5% 1/8W	R208	22215-223M	RES CF 22K 5% 1/8W
R111	22215-433M	RES CF 43K 5% 1/8W	R209	22215-223M	RES CF 22K 5% 1/8W
R113	22225-394M	RES CF 390K 5% 1/4W	R210	22215-473M	RES CF 47K 5% 1/8W
R114	22225-363M	RES CF 36K 5% 1/4W	R211	22215-752M	RES CF 7K5 5% 1/8W
R115	22215-154M	RES CF 150K 5% 1/8W	R212	22215-562M	RES CF 5K6 5% 1/8W
R116	22225-101M	RES CF 100R 5% 1/4W	R213	22225-272M	RES CF 2K7 5% 1/4W
R117	22215-101M	RES CF 100R 5% 1/8W	R214	22215-333M	RES CF 33K 5% 1/8W
R118	22215-473M	RES CF 47K 5% 1/8W	R215	22215-471M	RES CF 470R 5% 1/8W
R119	22225-472M	RES CF 4K7 5% 1/4W	R216	23A11-392M	RES MF 3K9 1% 1/8W
R120	22215-560M	RES CF 56R 5% 1/8W	R217	22225-102M	RES CF 1K 5% 1/4W
R121	22225-271M	RES CF 270R 5% 1/4W	R218	22225-822M	RES CF 8K2 5% 1/4W
R123	22225-103M	RES CF 10K 5% 1/4W	R219	22215-151M	RES CF 150R 5% 1/8W
R125	22225-471M	RES CF 470R 5% 1/4W	R220	22215-622M	RES CF 6K2 5% 1/8W
R126	23755-2284	RES MOF 0.22R 5% 2W	R221	22215-473M	RES CF 47K 5% 1/8W
R127	22215-391M	RES CF 390R 5% 1/8W	R222	22215-471M	RES CF 470R 5% 1/8W
R128	22225-392M	RES CF 3K9 5% 1/4W	R223	22215-123M	RES CF 12K 5% 1/8W
R129	22215-681M	RES CF 680R 5% 1/8W	R224	23A11-334M	RES MF 330K 1% 1/8W
R130	22215-102M	RES CF 1K 5% 1/8W	R225	22215-823M	RES CF 82K 5% 1/8W
R131	22215-242M	RES CF 2K4 5% 1/8W	R226	22215-332M	RES CF 3K3 5% 1/8W
R132	22215-272M	RES CF 2K7 5% 1/8W	R227	22215-103M	RES CF 10K 5% 1/8W
R133	22215-391M	RES CF 390R 5% 1/8W	R228	22215-332M	RES CF 3K3 5% 1/8W
R134	22215-751M	RES CF 750R 5% 1/8W	R229	22215-222M	RES CF 2K2 5% 1/8W
R135	22215-223M	RES CF 22K 5% 1/8W	R230	23A11-203M	RES MF 20K 1% 1/8W
R136	22225-223M	RES CF 22K 5% 1/4W	R231	23A11-203M	RES MF 20K 1% 1/8W
R137	22225-223M	RES CF 22K 5% 1/4W	R232	22225-204M	RES CF 200K 5% 1/4W
R138	22225-223M	RES CF 22K 5% 1/4W	R233	22215-103M	RES CF 10K 5% 1/8W
R139	22215-472M	RES CF 4K7 5% 1/8W	R234	23A11-912M	RES MF 9K1 1% 1/8W
R140	23245-5104	RES MOF 51R 5% 1W	R235	23A11-243M	RES MF 24K 1% 1/8W
R141	22215-472M	RES CF 4K7 5% 1/8W	R236	22215-222M	RES CF 2K2 5% 1/8W
R142	23755-1004	RES MOF 10R 5% 2W	R237	22215-752M	RES CF 7K5 5% 1/8W
R143	22225-224M	RES CF 220K 5% 1/4W	R239	22215-433M	RES CF 43K 5% 1/8W
R144	22225-363M	RES CF 36K 5% 1/4W	R240	22215-103M	RES CF 10K 5% 1/8W
R145	23245-1894	RES MOF 1R8 5% 1W	R241	22215-222M	RES CF 2K2 5% 1/8W
R146	22215-222M	RES CF 2K2 5% 1/8W	R242	22215-103M	RES CF 10K 5% 1/8W
R147	22225-394M	RES CF 390K 5% 1/4W	R243	22215-222M	RES CF 2K2 5% 1/8W
R148	22215-222M	RES CF 2K2 5% 1/8W	R244	22215-103M	RES CF 10K 5% 1/8W
R149	22215-203M	RES CF 20K 5% 1/8W	R245	23A21-202M	RES MF 2K 1% 1/4W
R151	22215-470M	RES CF 47R 5% 1/8W	R246	22215-152M	RES CF 1K5 5% 1/8W
R152	22225-224M	RES CF 220K 5% 1/4W	R247	22215-152M	RES CF 1K5 5% 1/8W
R201	22215-223M	RES CF 22K 5% 1/8W	R250	22215-122M	RES CF 1K2 5% 1/8W
R202	22215-202M	RES CF 2K 5% 1/8W	R251	22225-221M	RES CF 220R 5% 1/4W
R203	22215-183M	RES CF 18K 5% 1/8W	R252	23A21-202M	RES MF 2K 1% 1/4W
R204	22215-102M	RES CF 1K 5% 1/8W	R401	23A11-202M	RES MF 2K 1% 1/8W
R205	22215-183M	RES CF 18K 5% 1/8W	R402	23A11-682M	RES MF 6K8 1% 1/8W

Location	Part No.	Description	Location	Part No.	Description
R403	22215-512M	RES CF 5K1 5% 1/8W	R543	22215-103M	RES CF 10K 5% 1/8W
R404	22215-105M	RES CF 1M 5% 1/8W	R545	22215-182M	RES CF 1K8 5% 1/8W
R405	23A11-102M	RES MF 1K 1% 1/8W	R547	22215-222M	RES CF 2K2 5% 1/8W
R406	23755-2284	RES MOF 0.22R 5% 2W	R548	22225-103M	RES CF 10K 5% 1/4W
R407	23755-2284	RES MOF 0.22R 5% 2W	R549	22215-472M	RES CF 4K7 5% 1/8W
R410	22225-224M	RES CF 220K 5% 1/4W	R550	22215-103M	RES CF 10K 5% 1/8W
R411	23A11-274M	RES MF 270K 1% 1/8W	R551	22215-103M	RES CF 10K 5% 1/8W
R412	22225-184M	RES CF 180K 5% 1/4W	R552	22215-472M	RES CF 4K7 5% 1/8W
R414	22215-121M	RES CF 120R 5% 1/8W	R555	22215-472M	RES CF 4K7 5% 1/8W
R415	22225-221M	RES CF 220R 5% 1/4W	R556	22215-222M	RES CF 2K2 5% 1/8W
R416	22215-102M	RES CF 1K 5% 1/8W	R557	22215-221M	RES CF 220R 5% 1/8W
R417	23755-2284	RES MOF 0.22R 5% 2W	R559	22215-332M	RES CF 3K3 5% 1/8W
R418	22215-470M	RES CF 47R 5% 1/8W	R560	22215-681M	RES CF 680R 5% 1/8W
R419	22215-471M	RES CF 470R 5% 1/8W	R562	22215-332M	RES CF 3K3 5% 1/8W
R420	23755-1014	RES MOF 100R 5% 2W	R563	22215-332M	RES CF 3K3 5% 1/8W
R421	22215-104M	RES CF 100K 5% 1/8W	R564	22215-681M	RES CF 680R 5% 1/8W
R501	22215-512M	RES CF 5K1 5% 1/8W	R567	22225-152M	RES CF 1K5 5% 1/4W
R502	22215-272M	RES CF 2K7 5% 1/8W	R568	22215-562M	RES CF 5K6 5% 1/8W
R503	22225-102M	RES CF 1K 5% 1/4W	R572	22225-472M	RES CF 4K7 5% 1/4W
R504	22225-301M	RES CF 300R 5% 1/4W	R573	22215-332M	RES CF 3K3 5% 1/8W
R506	22215-332M	RES CF 3K3 5% 1/8W	R574	22215-511M	RES CF 510R 5% 1/8W
R507	22225-302M	RES CF 3K 5% 1/4W	R575	22215-102M	RES CF 1K 5% 1/8W
R508	22215-272M	RES CF 2K7 5% 1/8W	R576	22225-472M	RES CF 4K7 5% 1/4W
R510	22215-243M	RES CF 24K 5% 1/8W	R581	22215-103M	RES CF 10K 5% 1/8W
R515	22215-563M	RES CF 56K 5% 1/8W	R582	22215-153M	RES CF 15K 5% 1/8W
R516	22215-392M	RES CF 3K9 5% 1/8W	R583	22215-103M	RES CF 10K 5% 1/8W
R517	22215-102M	RES CF 1K 5% 1/8W	R584	22215-472M	RES CF 4K7 5% 1/8W
R519	22215-432M	RES CF 4K3 5% 1/8W	R585	22215-472M	RES CF 4K7 5% 1/8W
R520	22215-332M	RES CF 3K3 5% 1/8W	R586	22215-103M	RES CF 10K 5% 1/8W
R525	22215-242M	RES CF 2K4 5% 1/8W	R587	22215-473M	RES CF 47K 5% 1/8W
R527	22215-472M	RES CF 4K7 5% 1/8W	R588	22215-473M	RES CF 47K 5% 1/8W
R528	22215-332M	RES CF 3K3 5% 1/8W	R589	23A11-474M	RES MF 470K 1% 1/8W
R529	22215-683M	RES CF 68K 5% 1/8W	R601	23A11-750M	RES MF 75R 1% 1/8W
R530	22215-223M	RES CF 22K 5% 1/8W	R602	23A11-750M	RES MF 75R 1% 1/8W
R531	22215-432M	RES CF 4K3 5% 1/8W	R603	23A11-750M	RES MF 75R 1% 1/8W
R532	22215-182M	RES CF 1K8 5% 1/8W	R604	22215-103M	RES CF 10K 5% 1/8W
R533	22215-432M	RES CF 4K3 5% 1/8W	R605	22245-1011	RES CF 100R 5% 1/2W
R534	22225-302M	RES CF 3K 5% 1/4W	R606	22215-101M	RES CF 100R 5% 1/8W
R535	22225-302M	RES CF 3K 5% 1/4W	R607	22215-472M	RES CF 4K7 5% 1/8W
R536	22215-242M	RES CF 2K4 5% 1/8W	R608	22215-822M	RES CF 8K2 5% 1/8W
R537	22225-222M	RES CF 2K2 5% 1/4W	R609	22225-471M	RES CF 470R 5% 1/4W
R538	22215-302M	RES CF 3K 5% 1/8W	R610	22225-471M	RES CF 470R 5% 1/4W
R539	22215-332M	RES CF 3K3 5% 1/8W	R611	22225-471M	RES CF 470R 5% 1/4W
R540	22215-103M	RES CF 10K 5% 1/8W	R612	22215-103M	RES CF 10K 5% 1/8W
R541	22215-222M	RES CF 2K2 5% 1/8W	R613	22215-102M	RES CF 1K 5% 1/8W
R542	22225-332M	RES CF 3K3 5% 1/4W	R614	22215-103M	RES CF 10K 5% 1/8W

Location	Part No.	Description	Location	Part No.	Description
R617	22215-472M	RES CF 4K7 5% 1/8W	R672	22225-104M	RES CF 100K 5% 1/4W
R620	22245-3331	RES CF 33K 5% 1/2W	R673	22225-220M	RES CF 22R 5% 1/4W
R621	22215-101M	RES CF 100R 5% 1/8W	R674	22225-220M	RES CF 22R 5% 1/4W
R622	22225-470M	RES CF 47R 5% 1/4W	R675	22225-101M	RES CF 100R 5% 1/4W
R623	22215-470M	RES CF 47R 5% 1/8W	R676	22215-220M	RES CF 22R 5% 1/8W
R624	22215-470M	RES CF 47R 5% 1/8W	R677	22245-4701	RES CF 47R 5% 1/2W
R625	22215-102M	RES CF 1K 5% 1/8W	R678	22215-103M	RES CF 10K 5% 1/8W
R627	22215-202M	RES CF 2K 5% 1/8W	R679	22215-622M	RES CF 6K2 5% 1/8W
R628	22215-223M	RES CF 22K 5% 1/8W	R680	22215-752M	RES CF 7K5 5% 1/8W
R629	22215-122M	RES CF 1K2 5% 1/8W	R681	22215-470M	RES CF 47R 5% 1/8W
R630	23885-1520	RES MOF 1K5 5% 5W	R683	22215-102M	RES CF 1K 5% 1/8W
R631	22215-224M	RES CF 220K 5% 1/8W	R684	22215-752M	RES CF 7K5 5% 1/8W
R632	22225-104M	RES CF 100K 5% 1/4W	R685	22215-223M	RES CF 22K 5% 1/8W
R633	22225-220M	RES CF 22R 5% 1/4W	R686	22225-103M	RES CF 10K 5% 1/4W
R634	22225-220M	RES CF 22R 5% 1/4W	R687	22215-103M	RES CF 10K 5% 1/8W
R635	22225-101M	RES CF 100R 5% 1/4W	R691	22215-222M	RES CF 2K2 5% 1/8W
R636	22215-220M	RES CF 22R 5% 1/8W	R694	22215-432M	RES CF 4K3 5% 1/8W
R637	22245-4701	RES CF 47R 5% 1/2W	R695	22215-102M	RES CF 1K 5% 1/8W
R638	22215-103M	RES CF 10K 5% 1/8W	R696	22215-223M	RES CF 22K 5% 1/8W
R639	22225-622M	RES CF 6K2 5% 1/4W	R697	22215-102M	RES CF 1K 5% 1/8W
R640	22215-752M	RES CF 7K5 5% 1/8W	R701	23245-5624	RES MOF 5K6 5% 1W
R641	22215-470M	RES CF 47R 5% 1/8W	R702	22215-152M	RES CF 1K5 5% 1/8W
R643	22225-102M	RES CF 1K 5% 1/4W	R703	22225-689M	RES CF 6R8 5% 1/4W
R644	22215-752M	RES CF 7K5 5% 1/8W	R704	22225-159M	RES CF 1R5 5% 1/4W
R645	22215-103M	RES CF 10K 5% 1/8W	R705	22225-220M	RES CF 22R 5% 1/4W
R646	22215-243M	RES CF 24K 5% 1/8W	R707	23745-3001	RES MOF 30R 5% 1W
R647	22215-243M	RES CF 24K 5% 1/8W	R709	22225-470M	RES CF 47R 5% 1/4W
R648	22215-243M	RES CF 24K 5% 1/8W	R710	22225-224M	RES CF 220K 5% 1/4W
R649	22215-102M	RES CF 1K 5% 1/8W	R711	22215-682M	RES CF 6K8 5% 1/8W
R650	23885-1520	RES MOF 1K5 5% 5W	R712	22215-333M	RES CF 33K 5% 1/8W
R651	22215-224M	RES CF 220K 5% 1/8W	R715	22245-4721	RES CF 4K7 5% 1/2W
R652	22225-104M	RES CF 100K 5% 1/4W	R716	22225-680M	RES CF 68R 5% 1/4W
R653	22225-220M	RES CF 22R 5% 1/4W	R717	22215-392M	RES CF 3K9 5% 1/8W
R654	22225-220M	RES CF 22R 5% 1/4W	R718	22225-102M	RES CF 1K 5% 1/4W
R655	22225-101M	RES CF 100R 5% 1/4W	R719	22225-152M	RES CF 1K5 5% 1/4W
R656	22215-220M	RES CF 22R 5% 1/8W	R720	22225-152M	RES CF 1K5 5% 1/4W
R657	22245-4701	RES CF 47R 5% 1/2W	R722	22225-821M	RES CF 820R 5% 1/4W
R658	22215-103M	RES CF 10K 5% 1/8W	R723	22225-222M	RES CF 2K2 5% 1/4W
R659	22215-622M	RES CF 6K2 5% 1/8W	R724	22245-2021	RES CF 2K 5% 1/2W
R660	22215-752M	RES CF 7K5 5% 1/8W	R725	22225-102M	RES CF 1K 5% 1/4W
R661	22215-470M	RES CF 47R 5% 1/8W	R726	22225-102M	RES CF 1K 5% 1/4W
R663	22215-102M	RES CF 1K 5% 1/8W	R729	22225-682M	RES CF 6K8 5% 1/4W
R664	22225-752M	RES CF 7K5 5% 1/4W	R730	22215-473M	RES CF 47K 5% 1/8W
R666	22225-472M	RES CF 4K7 5% 1/4W	R732	22215-470M	RES CF 47R 5% 1/8W
R670	23885-1520	RES MOF 1K5 5% 5W	R733	23755-8204	RES MOF 82R 5% 2W
R671	22215-224M	RES CF 220K 5% 1/8W	R734	22215-203M	RES CF 20K 5% 1/8W

Location	Part No.	Description	Location	Part No.	Description
R735	23755-8204	RES MOF 82R 5% 2W	R858	22215-470M	RES CF 47R 5% 1/8W
R736	22225-473M	RES CF 47K 5% 1/4W	VARIABLE RESISTOR		
R737	22245-8231	RES CF 82K 5% 1/2W	VR101	25B20-202B	RES POT 2KB 0.1W
R738	22215-332M	RES CF 3K3 5% 1/8W	VR102	25B20-102B	RES POT 1KB 0.1W
R739	22215-433M	RES CF 43K 5% 1/8W	VR201	25B20-202B	RES POT 2KB 0.1W
R740	22215-472M	RES CF 4K7 5% 1/8W	VR202	25B20-302B	RES POT 3KB 0.1W
R741	22215-562M	RES CF 5K6 5% 1/8W	VR401	25B20-102B	RES POT 1KB 0.1W
R742	22225-100M	RES CF 10R 5% 1/4W	VR701	25A43-101BH	RES POT 100RB 0.5W
R743	22225-225M	RES CF 2M2 5% 1/4W	VR702	25B20-203B	RES POT 20KB 0.1W
R744	23245-151B	RES MOF 150R 5% 1W	VR801	25B20-202B	RES POT 2KB 0.1W
R745	23245-8204	RES MOF 82R 5% 1W	CAPACITOR		
R746	22215-153M	RES CF 15K 5% 1/8W	C101	42A77-224A	SAFETY 0.22U 20% AC250V
R747	22225-153M	RES CF 15K 5% 1/4W	C102	42D77-2224	SAFETY 2200P 20%
R748	22215-100M	RES CF 10R 5% 1/8W	C103	42D77-2224	SAFETY 2200P 20% AC250V
R750	22215-102M	RES CF 1K 5% 1/8W	C104	28ED7-1518	EL 150U 20% 400V
R751	22225-510M	RES CF 51R 5% 1/4W	C105	39446-1038	CE 0.01U 10% 500V
R752	22225-223M	RES CF 22K 5% 1/4W	C106	39446-1038	CE 0.01U 10% 500V
R753	22225-223M	RES CF 22K 5% 1/4W	C107	39446-221R	CE 220P 10% 500V
R754	22215-153M	RES CF 15K 5% 1/8W	C108	42D77-2224	SAFETY 2200P 20% AC250V
R755	22225-100M	RES CF 10R 5% 1/4W	C109	28H37-101R	EL 100U 20%
R756	22215-203M	RES CF 20K 5% 1/8W	C110	31115-104R	PEI 0.1U 5% 50V
R762	22215-822M	RES CF 8K2 5% 1/8W	C111	28H47-221RC	EL 220U 20% 25V
R767	22225-102M	RES CF 1K 5% 1/4W	C113	39B87C104R	ML 0.1U 20% 50V
R770	22215-272M	RES CF 2K7 5% 1/8W	C114	31115-222R	PEI 2200P 5% 50V
R801	22215-303M	RES CF 30K 5% 1/8W	C115	42A77-104C	SAFETY 0.1U 20%
R802	22215-682M	RES CF 6K8 5% 1/8W	C116	31115-222R	PEI 2200P 5% 50V
R804	22225-472M	RES CF 4K7 5% 1/4W	C118	39146-471R	CE 470P 10% 50V
R805	22215-273M	RES CF 27K 5% 1/8W	C119	28H97-1011	EL 100U 20%
R806	22215-473M	RES CF 47K 5% 1/8W	C120	28H97-4701	EL 47U 20% 100V
R807	23A11-683M	RES MF 68K 1% 1/8W	C121	28N67-4711	EL 470U 20% 50V
R808	23A31-1291	RES MF 1R2 1% 1/2W	C122	39446-221R	CE 220P 10% 500V
R809	22215-102M	RES CF 1K 5% 1/8W	C123	28H57-4711	EL 470U 20% 35V
R810	22215-331M	RES CF 330R 5% 1/8W	C124	28A47-6811	EL 680U 20% 25V
R811	22215-472M	RES CF 4K7 5% 1/8W	C125	28H47-4711	EL 470U 20% 25V
R812	22215-472M	RES CF 4K7 5% 1/8W	C127	28H37-101R	EL 100U 20% 16V
R813	22245-4791	RES CF 4R7 5% 1/2W	C128	28H37-331R	EL 330U 20% 16V
R814	22215-182M	RES CF 1K8 5% 1/8W	C129	28H37-331R	EL 330U 20% 16V
R815	22245-1511	RES CF 150R 5% 1/2W	C130	28H37-470R	EL 47U 20% 16V
R816	22225-332M	RES CF 3K3 5% 1/4W	C131	39446-272R	CE 2700P 10% 500V
R817	22215-272M	RES CF 2K7 5% 1/8W	C133	42D77-2224	SAFETY 2200P 20% AC250V
R818	22215-103M	RES CF 10K 5% 1/8W	C135	39187-103R	CE 0.01U 20% 50V
R819	23755-1214	RES MOF 120R 5% 2W	C137	28H37-470R	EL 47U 20% 16V
R820	22215-472M	RES CF 4K7 5% 1/8W	C138	28H37-470R	EL 47U 20% 16V
R821	22215-101M	RES CF 100R 5% 1/8W	C139	39446-681R	CE 680P 10% 500V
R856	22215-104M	RES CF 100K 5% 1/8W			
R857	22215-511M	RES CF 510R 5% 1/8W			

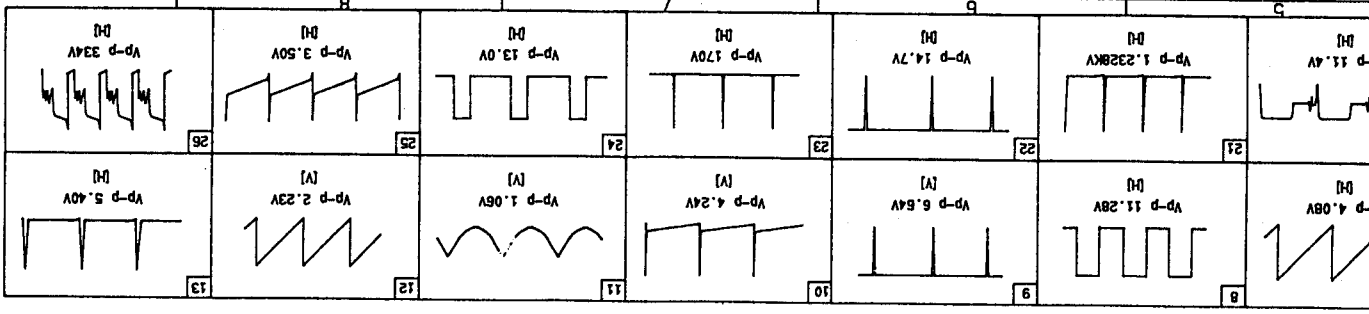
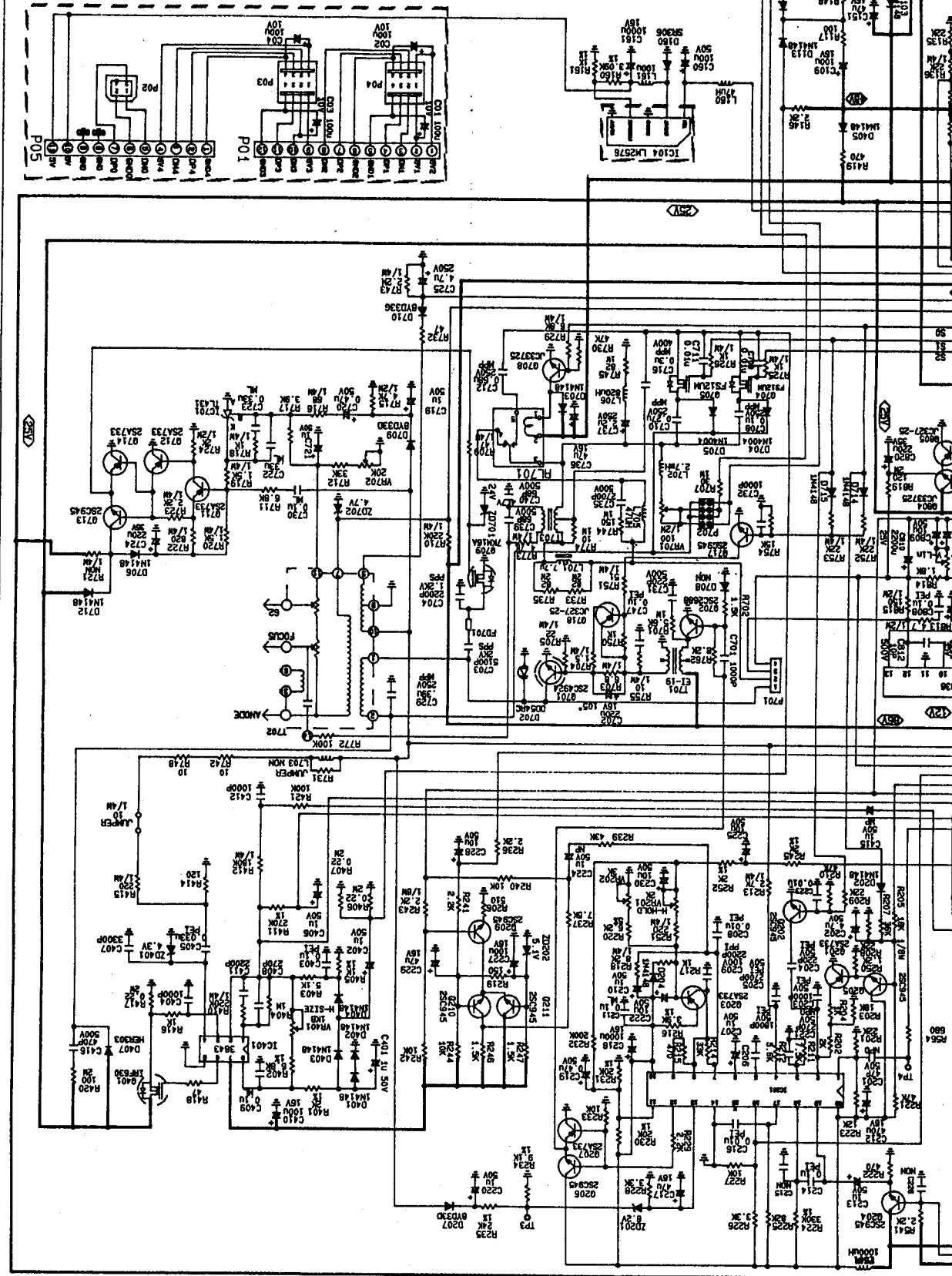
Location	Part No.	Description	Location	Part No.	Description
C140	39446-331R	CE 330P 10% 500V	C503	39B87C104R	ML 0.1U 20% 50V
C141	39446-331R	CE 330P 10% 500V	C504	39B87C104R	ML 0.1U 20% 50V
C151	28H37-470R	EL 47U 20% 16V	C505	28H27-221R	EL 220U 20% 10V
C201	38115-470R	CE 47P 5% 50V NPO	C507	38115-330R	CE 33P 5% 50V NPO
C202	28H67-479R	EL 4U7 20%	C508	38115-330R	CE 33P 5% 50V NPO
C203	31115-102R	PEI 1000P 5% 50V	C509	39B87C104R	ML 0.1U 20% 50V
C204	38115-221R	CE 220P 5% 50V NPO	C510	28H37-101R	EL 100U 20% 16V
C205	31115-272R	PEI 2700P 5% 50V	C516	28H27-221R	EL 220U 20% 10V
C206	31115-182R	PEI 1800P 5% 50V	C517	39B87C104R	ML 0.1U 20% 50V
C207	28H67-109R	EL 1U 20% 50V	C518	39146-102R	CE 1000P 10% 50V
C208	31115-103R	PEI 0.01U 5% 50V	C519	39146-102R	CE 1000P 10% 50V
C209	33322-222R	PPI 2200P 2% 100V	C522	39146-102R	CE 1000P 10% 50V
C210	28H67-109R	EL 1U 20% 50V	C523	39146-102R	CE 1000P 10% 50V
C211	39B87C104R	ML 0.1U 20% 50V	C524	28H67-100R	EL 10U 20% 50V
C212	28H37-471R	EL 470U 20% 16V	C525	39187-103R	CE 0.01U 20% 50V
C213	28H67-109R	EL 1U 20% 50V	C526	39146-102R	CE 1000P 10% 50V
C214	31115-104R	PEI 0.1U 5% 50V	C527	28H67-479R	EL 4U7 20% 50V
C216	31115-103R	PEI 0.01U 5% 50V	C528	39146-222R	CE 2200P 10% 50V
C217	28H37-470R	EL 47U 20% 16V	C529	39B87C333R	ML 0.033U 20% 50V
C218	28H37-1021	EL 1000U 20% 16V	C530	28H37-101R	EL 100U 20% 16V
C219	28H67-478R	EL 0.47U 20% 50V	C532	39B87C104R	ML 0.1U 20% 50V
C220	28H67-109R	EL 1U 20% 50V	C533	39146-101R	CE 100P 10% 50V
C221	38115-271R	CE 270P 5% 50V NPO	C534	39146-101R	CE 100P 10% 50V
C222	28H67-100R	EL 10U 20% 50V	C535	39146-101R	CE 100P 10% 50V
C223	39187-103R	CE 0.01U 20% 50V	C536	39146-101R	CE 100P 10% 50V
C224	28467-109R	EL 1U 20% 50V NP	C537	28H67-109R	EL 1U 20% 50V
C225	28H67-100R	EL 10U 20% 50V	C538	39B87C104R	ML 0.1U 20% 50V
C227	28H37-101R	EL 100U 20%	C539	28H67-100R	EL 10U 20% 50V
C228	28H67-100R	EL 10U 20% 50V	C601	28H67-109R	EL 1U 20% 50V
C229	28H37-470R	EL 47U 20%	C602	28H67-109R	EL 1U 20% 50V
C230	28H67-100R	EL 10U 20% 50V	C604	28H67-109R	EL 1U 20% 50V
C401	28H67-109R	EL 1U 20% 50V	C605	39146-103R	CE 0.01U 10% 50V
C402	28J67-109R	EL 1U 20% 50V	C606	39146-103R	CE 0.01U 10% 50V
C403	31115-104R	PEI 0.1U 5% 50V	C607	28H37-101R	EL 100U 20% 16V
C404	39146-102R	CE 1000P 10% 50V	C608	39146-103R	CE 0.01U 10% 50V
C405	39B87C333R	ML 0.033U 20% 50V	C609	28H67-109R	EL 1U 20% 50V
C406	28H67-109R	EL 1U 20% 50V	C610	28H67-109R	EL 1U 20% 50V
C407	39146-332R	CE 3300P 10% 50V	C611	28H67-109R	EL 1U 20% 50V
C408	39146-271R	CE 270P 10% 50V	C612	28H37-101R	EL 100U 20% 16V
C409	39B87C104R	ML 0.1U 20% 50V	C613	39146-103R	CE 0.01U 10% 50V
C410	28H37-101R	EL 100U 20% 16V	C614	39646-1028	CE 1000P 10% 2KV
C411	39146-222R	CE 2200P 10% 50V	C615	28H37-101R	EL 100U 20% 16V
C412	39146-102R	CE 1000P 10% 50V	C616	28H07-2201	EL 22U 20% 160V
C415	28467-109R	EL 1U 20% 50V NP	C617	39446-681R	CE 680P 10% 500V
C416	39446-471R	CE 470P 10% 500V	C618	39B87C104R	ML 0.1U 20% 50V
C502	28H27-221R	EL 220U 20% 10V	C619	39146-103R	CE 0.01U 10% 50V

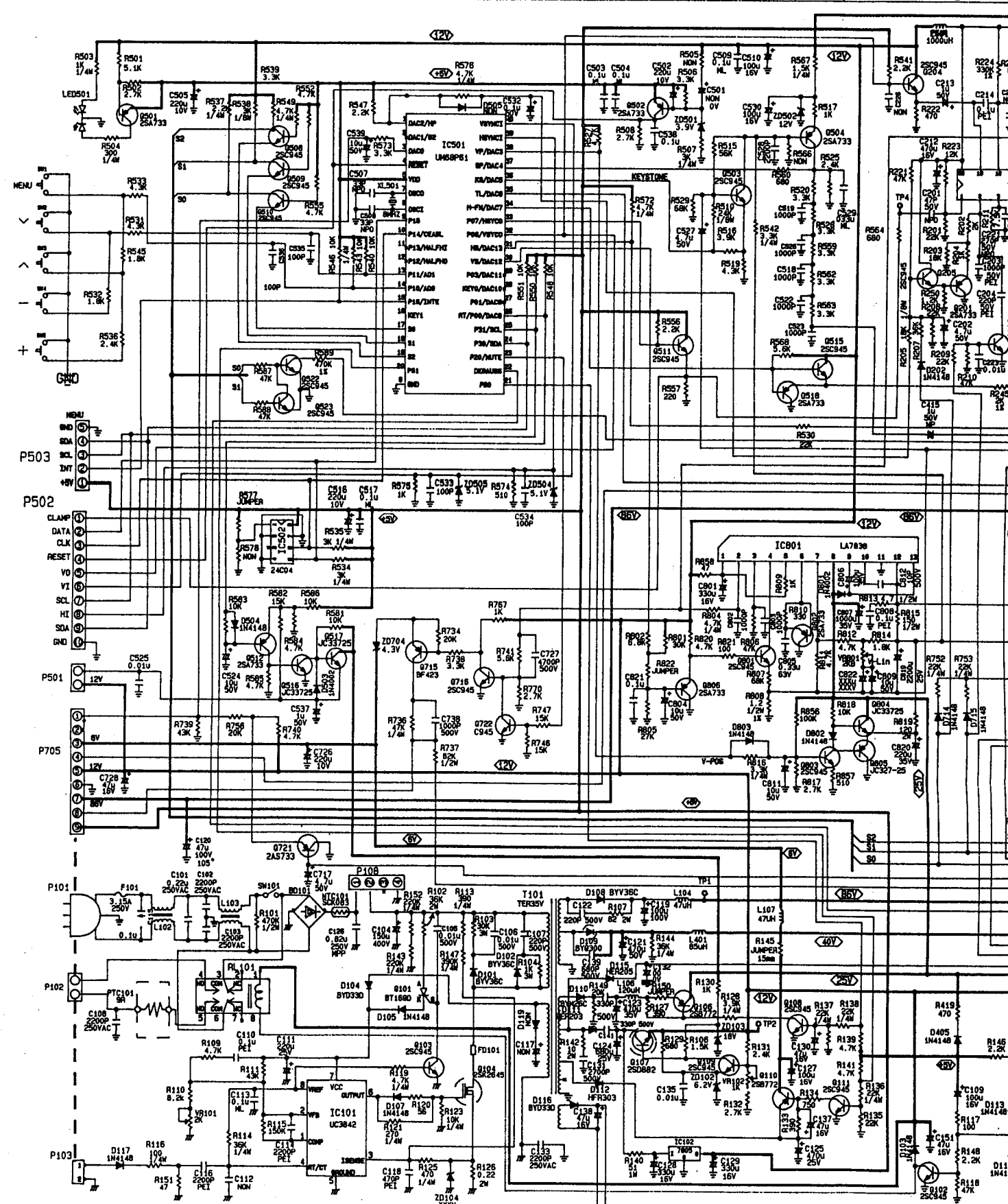
Location	Part No.	Description	Location	Part No.	Description
C619	39B87C104R	ML 0.1U 20% 50V	C710	35145-2746	MPP 0.27U 5% 250V
C620	39146-103R	CE 0.01U 10% 50V	C711	39187-103R	CE 0.01U 20% 50V
C621	39146-103R	CE 0.01U 10% 50V	C712	35145-6847	MPP 0.68U 5% 250V
C622	28H67-109R	EL 1U 20% 50V	C716	35155H3047	MPP 0.3U 5% 400V
C623	28H67-109R	EL 1U 20%	C717	28H67-479R	EL 4U7 20% 50V
C624	28H67-109R	EL 1U 20%	C719	28H67-109R	EL 1U 20% 50V
C626	39B87C104R	ML 0.1U 20% 50V	C720	28J67-478R	EL 0.47U 20% 50V
C627	39146-103R	CE 0.01U 10% 50V	C721	28J67-109R	EL 1U 20%
C628	39146-103R	CE 0.01U 10% 50V	C722	39B87C334R	ML 0.33U 20% 50V
C629	39146-103R	CE 0.01U 10% 50V	C723	39B87C334R	ML 0.33U 20% 50V
C630	28H97-109R	EL 1U 20% 100V	C724	28H57-221R	EL 220U 20% 35V
C631	38115-101R	CE 100P 5% 50V NPO	C725	28HB7-479R	EL 4U7 20% 250V
C632	28H97-109R	EL 1U 20% 100V	C726	28H27-221R	EL 220U 20% 10V
C633	28H67-109R	EL 1U 20% 50V	C727	39146-102R	CE 1000P 10% 50V
C634	28H67-109R	EL 1U 20% 50V	C728	28H37-470R	EL 47U 20% 16V
C640	28H97-109R	EL 1U 20% 100V	C729	35145-3947	MPP 0.39U 5% 250V
C641	39146-103R	CE 0.01U 10% 50V	C730	39B87C104R	ML 0.1U 20% 50V
C642	39146-103R	CE 0.01U 10% 50V	C731	39446-221R	CE 220P 10% 500V
C644	39146-103R	CE 0.01U 10% 50V	C732	39146-102R	CE 1000P 10% 50V
C646	39B87C104R	ML 0.1U 20% 50V	C735	39446-272R	CE 2700P 10% 500V
C648	28H67-109R	EL 1U 20% 50V	C736	28H37-470R	EL 47U 20% 16V
C649	38115-101R	CE 100P 5% 50V NPO	C736	28H67-109R	EL 1U 20% 50V
C650	28H97-109R	EL 1U 20% 100V	C737	28HB7-229R	EL 2U2 20% 250V
C651	38115-101R	CE 100P 5% 50V NPO	C738	39446-102R	CE 1000P 10% 500V
C651	38115-221R	CE 220P 5% 50V NPO	C747	31115-104R	PEI 0.1U 5% 50V
C652	28H97-109R	EL 1U 20% 100V	C801	28H37-331R	EL 330U 20% 16V
C653	28H67-109R	EL 1U 20% 50V	C802	39146-102R	CE 1000P 10% 50V
C660	28H97-109R	EL 1U 20% 100V	C803	39146-102R	CE 1000P 10% 50V
C670	28H97-109R	EL 1U 20% 100V	C804	28H67-100R	EL 10U 20% 50V
C671	38115-101R	CE 100P 5% 50V NPO	C805	346B5-334R	MPE 0.33U 5% 63V
C672	28H97-109R	EL 1U 20% 100V	C806	28H57-101R	EL 100U 20% 35V
C674	38115-330R	CE 33P 5% 50V NPO	C807	28H57-1021	EL 1000U 20% 35V
C675	38115-330R	CE 33P 5% 50V NPO	C808	31115-104R	PEI 0.1U 5% 50V
C680	28H97-109R	EL 1U 20% 100V	C809	28H67-100R	EL 10U 20% 50V
C686	31115-223R	PEI 0.022U 5% 50V	C810	28H47-2225	EL 2200U 20% 25V
C687	39146-471R	CE 470P 10% 50V	C811	28H67-100R	EL 10U 20% 50V
C688	39146-471R	CE 470P 10% 50V	C812	38496-100R	CE 10P 10% 500V
C691	28H37-470R	EL 47U 20% 16V	C820	28H57-221R	EL 220U 20% 35V
C692	38115-221R	CE 220P 5% 50V NPO	C821	39B87C104R	ML 0.1U 20% 50V
C696	39146-471R	CE 470P 10% 50V	COILS		
C701	39146-102R	CE 1000P 10% 50V	L102	47E00-0260	XFMR EMI ET-24
C702	28637-2211	EL 220U 20%	L103	47E00-0110	XFMR EMI UU-10.5
! C703	375B5-5127H	PPS 5100P 5% 2KV	L104	45M1K-4704	COIL CHOKE 47U
! C704	37575-2227H	PPS 2200P 5% 1.2KV	L106	45M1K-1214	COIL CHOKE 120U 10%
C708	35145-1044	MPP 0.1U 5% 250V	L107	45M1K-4704	COIL CHOKE 47U
C709	39187-103R	CE 0.01U 20% 50V			

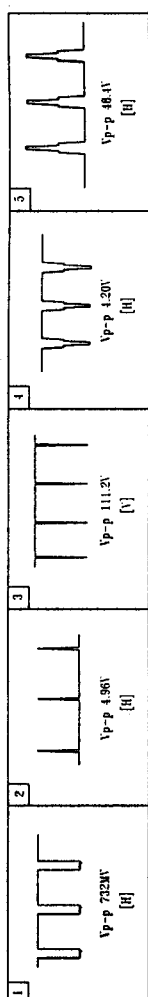
Location	Part No.	Description	Location	Part No.	Description
L401	46N00-0410	COIL LINE CHOKE 85uH	L706	46N00-0330	COIL LINE CHOKE 820uH 10%
L501	45B0K-102T	COIL PEAKING 1000U		46G00-0085	COIL ROTATION (300T)
L601	45B0K-100T	COIL PEAKING 10U		46G00-0280	COIL DEGAUSSING (100T)
L630	45B0K-569T	COIL PEAKING 5U6		TRANSFORMERS	
L650	45B0K-569T	COIL PEAKING 5U6	T101 T701	47S00-1080L	XFMR SPS ERL-35
L670	45B0K-569T	COIL PEAKING 5U6		47D10-0270T	XFMR DRIVE EI-19
L701	46L00-0460L	COIL LINEAR 7.7uH	N! T702	47F13-0830M	XFMR FBT
L702	46N00-0320	COIL LINE CHOKE 2.7mH 10%			W/FOCUS/SCREEN/CR BLOCK
L705	45M1K-4704	COIL CHOKE 47U			

Location	Part No.	Description
ITEGRAED CIRCUITS		
● IC101	17A06-150G	IC LINEAR 8P DEFLECTION3842
IC102	17A07-040S	IC LINEAR 3P VOLTAGE REGULATOR KA7805A
⊙ IC201	17A06-170H	IC LINEAR DEFLECTION 7856 20P
● IC401	17A06-190G	IC LINEAR 8P DEFLECTIONUC3843B
N⊙ IC501	16P40-028F	IC MICRO-PROCESSOR 40P 68P61A OTP 24K
IC502	16M08-009R	IC EEPROM AT24C04 (B)-10PC (BLANK) 8P
IC601	17A04-160V	IC LINEAR 36P VIDEO M52737SP
N● IC603	16N24-002H	IC CONTROLLER 24P STV9425
IC701	17A07-031D	IC LINEAR 3P VOLTAGE REGULATOR 431
⊙ IC801	17A06-130H	IC LINEAR DEFLECTION 7838 13P
MISCELLANEOUS		
BD101 LED501	11S31-085A	PCB MAIN-S 330*247*1.6MM 1569VL
	11S33-032C	PCB CRT-S 138*120*1.6MM1569E
	15D68-F000	DIODE BRIDGE 4A 800V (KBL406G/PBL406)
	19D0A-0060	DIODE LED BICOLOR W-DIFFUSED(L-59GR/1YGW
PTC101 NTC101	20H15-08AB	CRT C-.28 NG M36EDR320X131/2F01 (MASK)
	26A00-0100	PTCR 9R 20% 2P
	26B00-0081	NTCR 8R 15% 3A P=7.5MM
	42S00-0201	SPARK GAP DSP-201M 200V20%
SG630	42S00-0201	SPARK GAP DSP-201M 200V20%
SG670	42S00-0201	SPARK GAP DSP-201M 200V20%
SG650	42S00-0201	SPARK GAP DSP-201M 200V20%
SG601	42S00-0301	SPARK GAP DSP-301N 300V30%
FD601	46R00-0010	CORE RF BEAD RHW 3.5*6*1.0 TP
FD101	46R00-0010	CORE RF BEAD RHW 3.5*6*1.0 TP
FD670	46R00-0010	CORE RF BEAD RHW 3.5*6*1.0 TP
FD650	46R00-0010	CORE RF BEAD RHW 3.5*6*1.0 TP
FD630	46R00-0010	CORE RF BEAD RHW 3.5*6*1.0 TP
FOR D407*2	46R00-0300	CORE RF BRH 3.5*6*1.5
D112*2	46R00-0300	CORE RF BRH 3.5*6*1.5
FD701	46R00-0500	CORE RF C8 BRH 3.5*9*1.0

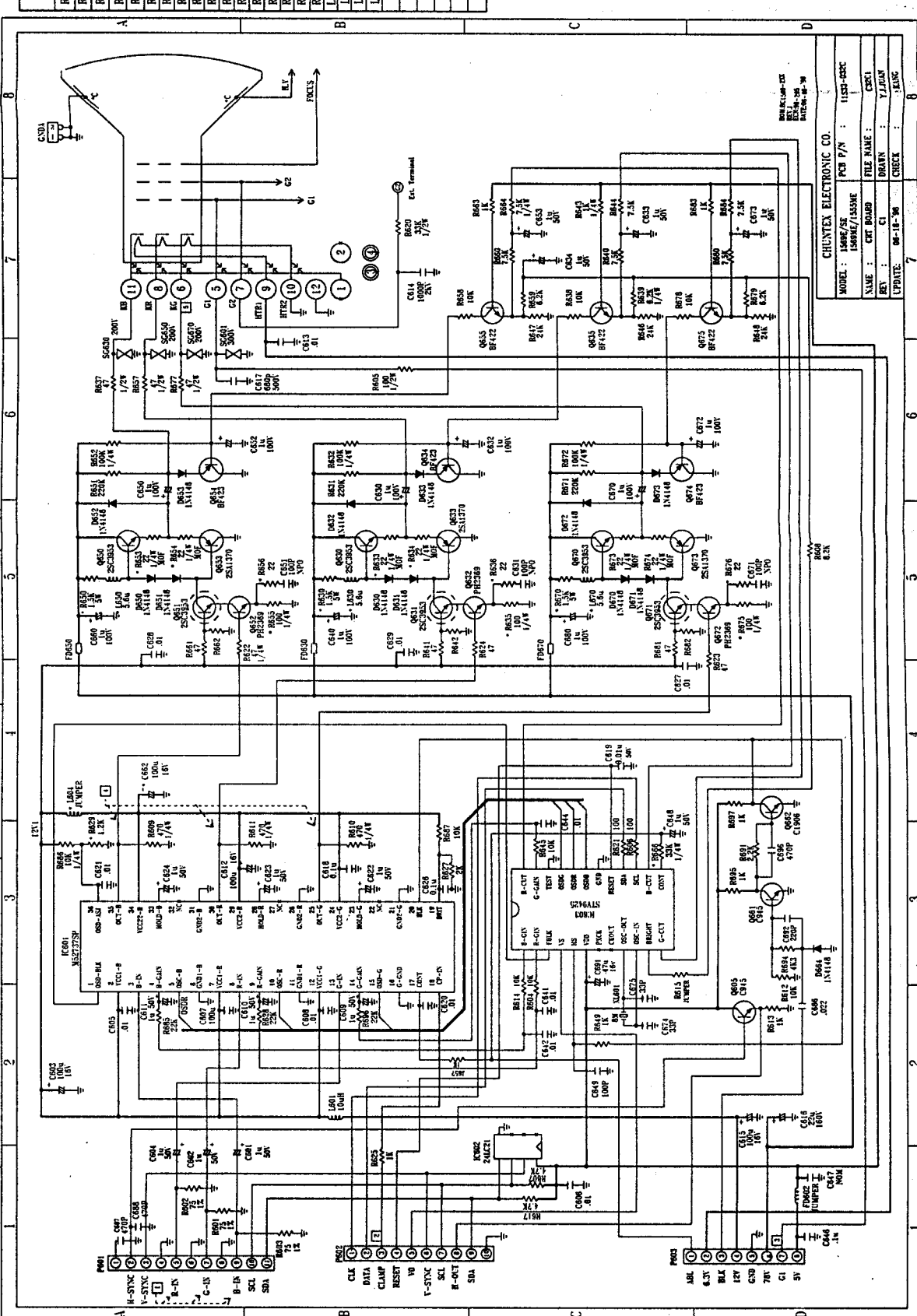
Location	Part No.	Description
● F101	49FB2-0A0A	FUSE SLOW 3.15A 250V (NORDIC)
SW1	52P11-0100	SWITCH PRESS W/O LOCK SERIES
SW5	52P11-0100	SWITCH PRESS W/O LOCK SERIES
SW4	52P11-0100	SWITCH PRESS W/O LOCK SERIES
SW3	52P11-0100	SWITCH PRESS W/O LOCK SERIES
SW2	52P11-0100	SWITCH PRESS W/O LOCK SERIES
SW101	52P12-0060	SWITCH POWRE 1P2T 5A250V
RL101	53R001-008S	RELAY COIL DC12V 5A/250V (2-A)
RL701	53R001-011	RELAY COIL DC12V 10A/125V
	54B11-7207	WIRE BRAID 72CM
SHIELD COVER-BRACKET	54B12-1403	WIRE BRAID W/TUBE 14CM
TP4-CRT/GND	54L23B260Z	WIRE LEAD 1015#18 26L BLACK 10/PLUG
B	54L23B290Z	WIRE LEAD 1015#18 29L BLACK TUBE/PLUG
N-N'	54N23B0700	WIRE LEAD 1015#18 7L BK
SHIELD COVER-HEAT SINK	54S23B1700	WIRE TERMINAL/PLUG 1015#18 17L BLACK
	56Q67-1800	POWER CORD IBMPC VDE 1M8-B 250V10A
	57607-3007	TUBE TEFLON D=0.7MM T=0.3MM L=7MM
XL601	60R01-0010M	RESONATOR 8MHZ
XL501	60R01-0010M	RESONATOR 8MHZ
P101	64P20-1010	SOCKET POWER
	65S10-1770	CABLE SIGNAL 15D-11H 177CM BLACK W/C
P502-CRT/B P602	65W01333D1	CONN H/T WIRE 1007#24 10P 2.5 33L-T
P705-CRT/B P603	65W91333D0	CONN H/T WIRE 1007#24 9P-1 2.5 33L-T
	7900015202	SUPPORTS SAPCER
	7900040200	MOUNTING PURSE LOCK (AB-7)
CRT-R1B	7900049000	PLATE CRT



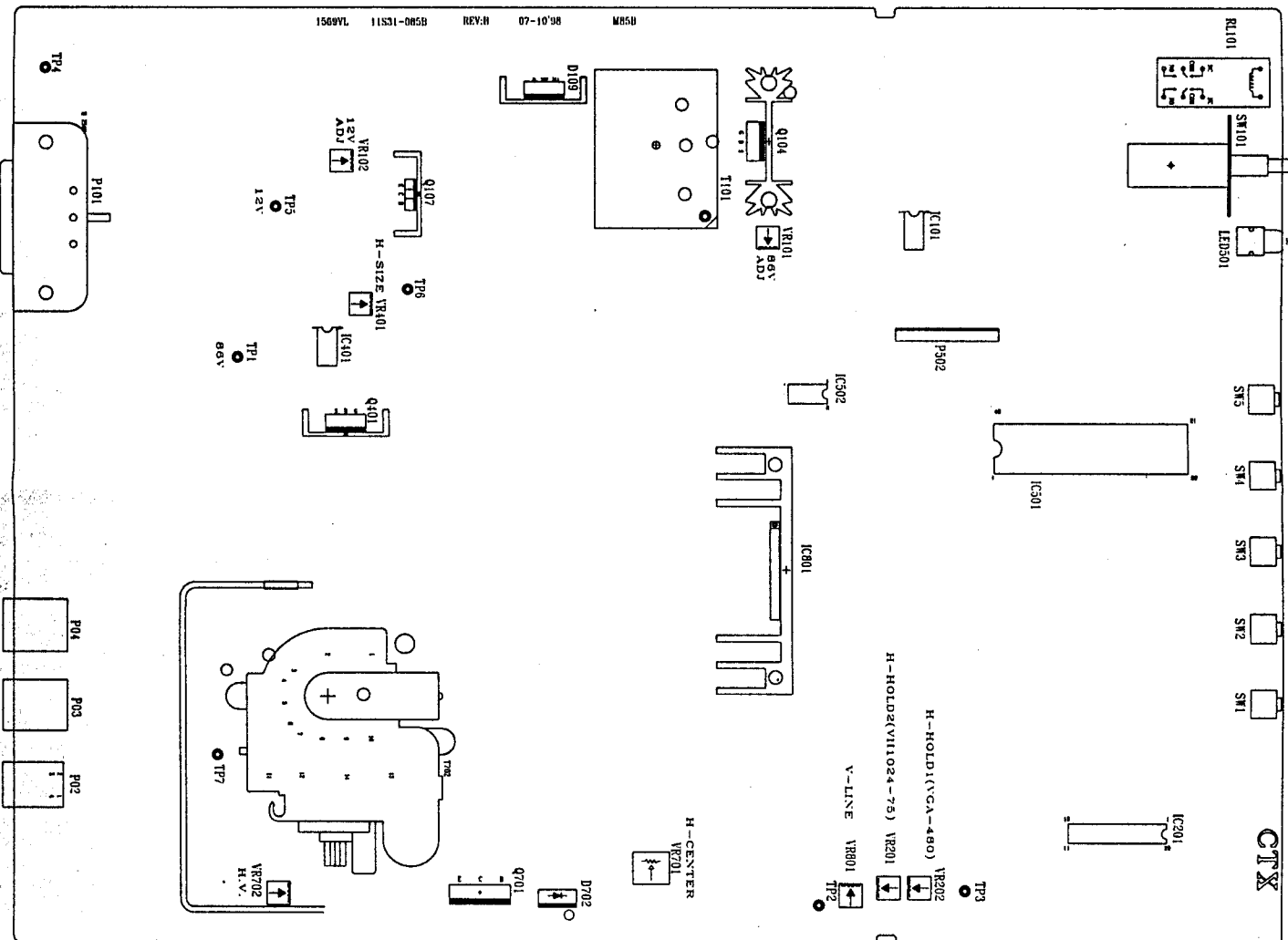
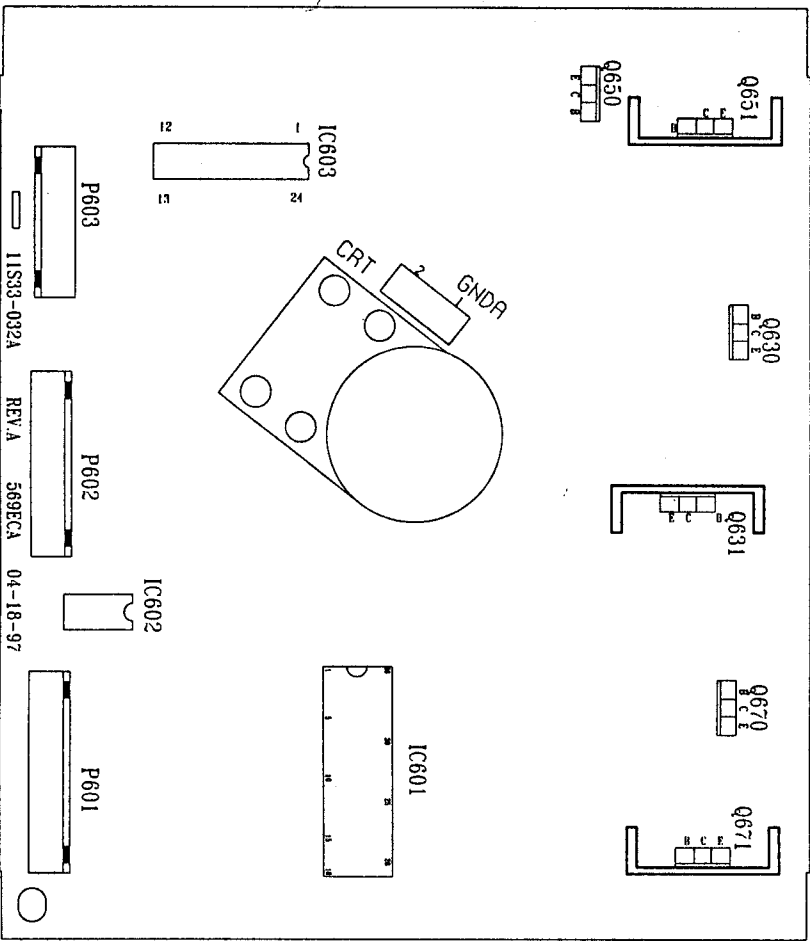




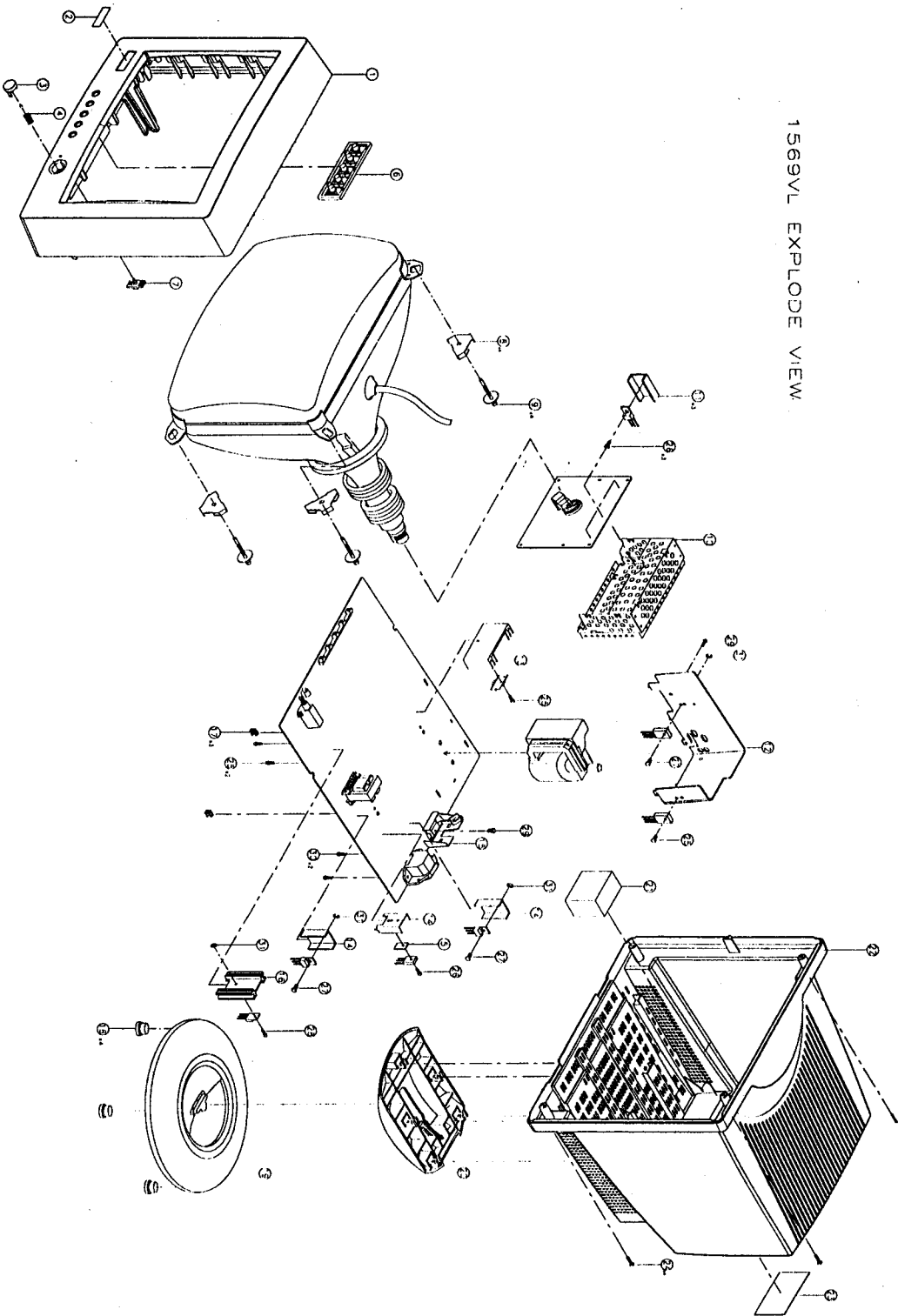
	1569E	1369SE	1369SE	1569ME	1569VL
	PHILIPS CRT	TEAC			
R029	1K2	1K2		1K2	X
R030	1K3	1K5	1K5	1K5	1.5K
R033	22R	22R	22R	22R	X
R034	22R	22R	22R	22R	X
R035	100R	100R	100R	100R	X
R038	22R	22R	22R	22R	X
R050	1K3	1K5	1K5	1K5	1.5K
R053	22R	22R	22R	22R	X
R054	22R	22R	22R	22R	X
R055	100R	100R	100R	100R	X
R058	22R	22R	22R	22R	X
R068	33K	18K	33K	18K	4.7K
R070	1K3	1K5	1K5	1K5	1.5K
R073	22R	22R	22R	22R	X
R074	22R	22R	22R	22R	X
R075	100R	100R	100R	100R	X
R076	22R	22R	22R	22R	X
R077	22R	22R	22R	22R	X
R078	22R	22R	22R	22R	X
R079	22R	22R	22R	22R	X
R080	22R	22R	22R	22R	X
R081	22R	22R	22R	22R	X
R082	22R	22R	22R	22R	X
R083	22R	22R	22R	22R	X
R084	22R	22R	22R	22R	X
R085	22R	22R	22R	22R	X
R086	22R	22R	22R	22R	X
R087	22R	22R	22R	22R	X
R088	22R	22R	22R	22R	X
R089	22R	22R	22R	22R	X
R090	22R	22R	22R	22R	X
R091	22R	22R	22R	22R	X
R092	22R	22R	22R	22R	X
R093	22R	22R	22R	22R	X
R094	22R	22R	22R	22R	X
R095	22R	22R	22R	22R	X
R096	22R	22R	22R	22R	X
R097	22R	22R	22R	22R	X
R098	22R	22R	22R	22R	X
R099	22R	22R	22R	22R	X
R100	22R	22R	22R	22R	X
R101	22R	22R	22R	22R	X
R102	22R	22R	22R	22R	X
R103	22R	22R	22R	22R	X
R104	22R	22R	22R	22R	X
R105	22R	22R	22R	22R	X
R106	22R	22R	22R	22R	X
R107	22R	22R	22R	22R	X
R108	22R	22R	22R	22R	X
R109	22R	22R	22R	22R	X
R110	22R	22R	22R	22R	X
R111	22R	22R	22R	22R	X
R112	22R	22R	22R	22R	X
R113	22R	22R	22R	22R	X
R114	22R	22R	22R	22R	X
R115	22R	22R	22R	22R	X
R116	22R	22R	22R	22R	X
R117	22R	22R	22R	22R	X
R118	22R	22R	22R	22R	X
R119	22R	22R	22R	22R	X
R120	22R	22R	22R	22R	X
R121	22R	22R	22R	22R	X
R122	22R	22R	22R	22R	X
R123	22R	22R	22R	22R	X
R124	22R	22R	22R	22R	X
R125	22R	22R	22R	22R	X
R126	22R	22R	22R	22R	X
R127	22R	22R	22R	22R	X
R128	22R	22R	22R	22R	X
R129	22R	22R	22R	22R	X
R130	22R	22R	22R	22R	X
R131	22R	22R	22R	22R	X
R132	22R	22R	22R	22R	X
R133	22R	22R	22R	22R	X
R134	22R	22R	22R	22R	X
R135	22R	22R	22R	22R	X
R136	22R	22R	22R	22R	X
R137	22R	22R	22R	22R	X
R138	22R	22R	22R	22R	X
R139	22R	22R	22R	22R	X
R140	22R	22R	22R	22R	X
R141	22R	22R	22R	22R	X
R142	22R	22R	22R	22R	X
R143	22R	22R	22R	22R	X
R144	22R	22R	22R	22R	X
R145	22R	22R	22R	22R	X
R146	22R	22R	22R	22R	X
R147	22R	22R	22R	22R	X
R148	22R	22R	22R	22R	X
R149	22R	22R	22R	22R	X
R150	22R	22R	22R	22R	X
R151	22R	22R	22R	22R	X
R152	22R	22R	22R	22R	X
R153	22R	22R	22R	22R	X
R154	22R	22R	22R	22R	X
R155	22R	22R	22R	22R	X
R156	22R	22R	22R	22R	X
R157	22R	22R	22R	22R	X
R158	22R	22R	22R	22R	X
R159	22R	22R	22R	22R	X
R160	22R	22R	22R	22R	X
R161	22R	22R	22R	22R	X
R162	22R	22R	22R	22R	X
R163	22R	22R	22R	22R	X
R164	22R	22R	22R	22R	X
R165	22R	22R	22R	22R	X
R166	22R	22R	22R	22R	X
R167	22R	22R	22R	22R	X
R168	22R	22R	22R	22R	X
R169	22R	22R	22R	22R	X
R170	22R	22R	22R	22R	X
R171	22R	22R	22R	22R	X
R172	22R	22R	22R	22R	X
R173	22R	22R	22R	22R	X
R174	22R	22R	22R	22R	X
R175	22R	22R	22R	22R	X
R176	22R	22R	22R	22R	X
R177	22R	22R	22R	22R	X
R178	22R	22R	22R	22R	X
R179	22R	22R	22R	22R	X
R180	22R	22R	22R	22R	X
R181	22R	22R	22R	22R	X
R182	22R	22R	22R	22R	X
R183	22R	22R	22R	22R	X
R184	22R	22R	22R	22R	X
R185	22R	22R	22R	22R	X
R186	22R	22R	22R	22R	X
R187	22R	22R	22R	22R	X
R188	22R	22R	22R	22R	X
R189	22R	22R	22R	22R	X
R190	22R	22R	22R	22R	X
R191	22R	22R	22R	22R	X
R192	22R	22R	22R	22R	X
R193	22R	22R	22R	22R	X
R194	22R	22R	22R	22R	X
R195	22R	22R	22R	22R	X
R196	22R	22R	22R	22R	X
R197	22R	22R	22R	22R	X
R198	22R	22R	22R	22R	X
R199	22R	22R	22R	22R	X
R200	22R	22R	22R	22R	X



MODEL :	1569E/SE	PCB P/N :	11531-000C
NAME :	CRT BOARD	FILE NAME :	C001
REV :	C1	DRAWN :	Y.J.AHN
UPDATE :	08-18-98	CHECK :	JEUNG



1569VL EXPLODE VIEW



CTX 1569VL EXPLODED VIEW PARTS LIST

NO.	PARTS NO.	DESCRIPTION	QTY
1	0820033000	FRONT CABINET	1
2	7140402400	NAME PLATE	1
3	7110048000	POWER KNOB	1
4	7306147110	POWER SPRING	1
5	7414452000	INSULATING SHEET	1
6	7110049000	FUNCTION KEY	1
7	0850008000	POWER LED LENS	1
8	7460004400	CRT WAFER	4
9	6771050360	SCREW PLASTIC T5.0X36	4
10	7500039000	CRT SHIELD COVER	1
11	7516765650	HEAT SINK	3
12	7510066200	HEAT SINK	1
13	7516636220	HEAT SINK	1
14	7516673650	HEAT SINK	1
15	7620073200	REAR BRACKET	1
16	7515169220	HEAT SINK	1
17	7900015201	SUPPORT SPACER	3
18	7410023301	GUN FOOT	4
19	0830011300	SWIVEL BASE	1
20	0810023300	SWIVEL BOWL	1
21	7420010100	SPONGE	1
22	0800025000	REAR CABINET	1
23		OVERLAY	1
24	6776040160	SCREW T4X16.0	4
25	6724430080	SCREW T3X8	1
26	6724428060	SCREW T2.6X6	3
27	6720430080	SCREW M3X8	1
28	6720430100	SCREW M3X10	1
29	6724430080	SCREW T3X8.0	1
30	6740035240	NUT	1
31	6740035240	NUT	1
32			
33			
34			
35			
36			